GenCore version 5.1.8
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OM protein - protein search, using sw model

Run on: May 9, 2006, 04:14:52 ; Search time 186 Seconds
(without alignments)
387.409 Million cell updates/sec

Title: US-10-677-093-35
Perfect score: 864
Sequence: 1 LEYCLKDRMNFDIPEEIKQL.....FLQRSSNFQCQKLLWQLNGR 164

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	864	100.0	164	8	ADS16344	Ads16344 Human int
2	850	98.4	164	8	ADS16349	Ads16349 Human int
3	850	98.4	164	8	ADS16354	Ads16354 Human int
4	838	97.0	353	5	AAU99377	Aau99377 Mutant hu
5	838	97.0	353	5	AAU99379	Aau99379 Mutant hu
6	838	97.0	353	5	AAU99378	Aau99378 Mutant hu
7	832	96.3	369	5	AAU99389	Aau99389 Mutant hu
8	827	95.7	353	5	AAU99381	Aau99381 Mutant hu
9	827	95.7	353	5	AAU99380	Aau99380 Mutant hu
10	827	95.7	353	5	AAU99382	Aau99382 Mutant hu
11	812	94.0	353	5	AAU99384	Aau99384 Mutant hu
12	812	94.0	353	5	AAU99383	Aau99383 Mutant hu
13	796.5	92.2	368	5	AAU99385	Aau99385 Mutant hu
14	796	92.1	369	5	AAU99386	Aau99386 Mutant hu
15	778.5	90.1	368	5	AAU99387	Aau99387 Mutant hu
16	778	90.0	369	5	AAU99388	Aau99388 Mutant hu
17	757	87.6	164	8	ADS16345	Ads16345 Human int
18	743	86.0	164	8	ADS16350	Ads16350 Human int
19	743	86.0	164	8	ADS16355	Ads16355 Human int
20	730	84.5	399	3	AAY70867	Aay70867 Human int
21	729	84.4	771	7	ADF16422	Adf16422 Human alb
22	729	84.4	771	7	ADF15130	Adf15130 Human alb
23	729	84.4	771	7	ADH21758	Adh21758 Human alb
24	729	84.4	771	7	ADH21341	Adh21341 Human alb
25	729	84.4	771	9	ADW45484	Adw45484 Human int
26	729	84.4	771	9	ADW45481	Adw45481 Human int
27	729	84.4	772	7	ADF15014	Adf15014 Human alb
28	729	84.4	772	7	ADF15026	Adf15026 Human alb
29	729	84.4	772	7	ADH21300	Adh21300 Human alb
30	729	84.4	772	7	ADH21298	Adh21298 Human alb
31	729	84.4	772	9	ADW45475	Adw45475 Human int
32	729	84.4	772	9	ADW45467	Adw45467 Human int
33	729	84.4	775	7	ADF14951	Adf14951 Human alb
34	729	84.4	775	7	ADH21287	Adh21287 Human alb
35	729	84.4	775	9	ADW45459	Adw45459 Human ser
36	725	83.9	422	9	ADV97123	Adv97123 Human IFN
37	723	83.7	155	1	AAP30180	Aap30180 Sequence
38	723	83.7	155	1	AAP40124	Aap40124 Sequence
39	723	83.7	165	4	AAU00139	Aau00139 Human int
40	723	83.7	165	8	ADL90735	Adl90735 Human mut
41	723	83.7	165	8	ADL89709	Adl89709 Human mod
42	723	83.7	165	8	ADQ07886	Adq07886 Human int
43	723	83.7	166	1	AAP30219	Aap30219 Sequence
44	723	83.7	166	1	AAP40626	Aap40626 Sequence
45	723	83.7	166	1	AAP50262	Aap50262 Sequence

ALIGNMENTS

RESULT 1
ADS16344
ID ADS16344 standard; protein; 164 AA.
XX
AC ADS16344;
XX
DT 02-DEC-2004 (first entry)
XX
DE Human interferon (IFN) beta variant protein #1.
XX
KW Interferon; IFN; antiviral; antineoplastic; immunomodulator;
KW IFN related disorder; autoimmune disease; multiple sclerosis;
KW diabetes mellitus; lupus erythematosus; Crohn's disease; asthma; allergy;
KW psoriasis; viral infection; hepatitis C; hepatitis B; viral encephalitis;
KW cell proliferation disease; cancer; osteosarcoma; basal cell carcinoma;
KW multiple myeloma; chronic lymphocytic leukaemia; Kaposi's sarcoma;
KW renal-cell carcinoma; ovarian cancer; hairy-cell leukaemia;
KW Hodgkin's disease; gene therapy; human; IFN beta; circular; cyclic;
KW variant; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Cleavage-site 27. .28
FT Region 139. .140
FT /note= "Linker"
XX
PN US2004175359-A1.
XX
PD 09-SEP-2004.
XX
PF 30-SEP-2003; 2003US-00677093.
XX
PR 12-NOV-2002; 2002US-0425851P.
XX
PA (DESJ/) DESJARLAIS J R.
PA (MARS/) MARSHALL S A.
PA (MOYY/) MO Y.
PA (THOM/) THOMASON A R.
XX
PI Desjarlais JR, Marshall SA, Mo Y, Thomason AR;
XX
DR WPI; 2004-642104/62.
XX
PT Novel type 1 interferon (IFN) having antiviral, antineoplastic or
PT immunomodulatory activity same as wild-type IFN, and being circularly

PT permuted or cyclized to provide modulated characteristics, useful for
PT treating IFN related diseases.
XX
PS Claim 5; SEQ ID NO 35; 48pp; English.
XX
CC The present invention relates to a type 1 interferon (IFN) comprising
CC antiviral, antineoplastic and immunomodulatory activity similar to a
CC naturally occurring IFN and has been circularly permuted or cyclised and
CC has at least one modulated characteristic as compared to the naturally
CC occurring IFN. The invention is useful for treating IFN related disorder
CC which includes autoimmune diseases such as multiple sclerosis, diabetes
CC mellitus, lupus erythematosus, Crohn's disease, asthma, allergies and
CC psoriasis, viral infections such as hepatitis C, hepatitis B and viral
CC encephalitis and cell proliferation diseases or cancer such as
CC osteosarcoma, basal cell carcinoma, multiple myeloma, chronic lymphocytic
CC leukaemia, Kaposi's sarcoma, renal-cell carcinoma, ovarian cancer, hairy-
CC cell leukaemia and Hodgkin's disease. The invention is also useful in
CC gene therapy. The present sequence is human interferon (IFN) beta variant
CC protein.
XX
SQ Sequence 164 AA;

Query Match 100.0%; Score 864; DB 8; Length 164;
Best Local Similarity 100.0%; Pred. No. 2.3e-70;
Matches 164; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||||||||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
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RESULT 2
ADS16349
ID ADS16349 standard; protein; 164 AA.
XX
AC ADS16349;
XX
DT 02-DEC-2004 (first entry)
XX
DE Human interferon (IFN) beta variant protein #6.
XX
KW Interferon; IFN; antiviral; antineoplastic; immunomodulator;
KW IFN related disorder; autoimmune disease; multiple sclerosis;
KW diabetes mellitus; lupus erythematosus; Crohn's disease; asthma; allergy;
KW psoriasis; viral infection; hepatitis C; hepatitis B; viral encephalitis;
KW cell proliferation disease; cancer; osteosarcoma; basal cell carcinoma;
KW multiple myeloma; chronic lymphocytic leukaemia; Kaposi's sarcoma;
KW renal-cell carcinoma; ovarian cancer; hairy-cell leukaemia;
KW Hodgkin's disease; gene therapy; human; IFN beta; circular; cyclic;
KW variant; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Cleavage-site 27. .28
FT Region 139. .140
FT /note= "Linker"
XX
PN US2004175359-A1.
XX
PD 09-SEP-2004.
XX
PF 30-SEP-2003; 2003US-00677093.
XX
PR 12-NOV-2002; 2002US-0425851P.
XX
PA (DESJ/) DESJARLAIS J R.
PA (MARS/) MARSHALL S A.
PA (MOYY/) MO Y.
PA (THOM/) THOMASON A R.
XX
PI Desjarlais JR, Marshall SA, Mo Y, Thomason AR;
XX
DR WPI; 2004-642104/62.
XX
PT Novel type 1 interferon (IFN) having antiviral, antineoplastic or
PT immunomodulatory activity same as wild-type IFN, and being circularly
PT permuted or cyclized to provide modulated characteristics, useful for
PT treating IFN related diseases.
XX
PS Claim 5; SEQ ID NO 40; 48pp; English.
XX
CC The present invention relates to a type 1 interferon (IFN) comprising
CC antiviral, antineoplastic and immunomodulatory activity similar to a
CC naturally occurring IFN and has been circularly permuted or cyclised and
CC has at least one modulated characteristic as compared to the naturally
CC occurring IFN. The invention is useful for treating IFN related disorder
CC which includes autoimmune diseases such as multiple sclerosis, diabetes
CC mellitus, lupus erythematosus, Crohn's disease, asthma, allergies and
CC psoriasis, viral infections such as hepatitis C, hepatitis B and viral
CC encephalitis and cell proliferation diseases or cancer such as
CC osteosarcoma, basal cell carcinoma, multiple myeloma, chronic lymphocytic
CC leukaemia, Kaposi's sarcoma, renal-cell carcinoma, ovarian cancer, hairy-
CC cell leukaemia and Hodgkin's disease. The invention is also useful in
CC gene therapy. The present sequence is human interferon (IFN) beta variant
CC protein.
XX
SQ Sequence 164 AA;

Query Match 98.4%; Score 850; DB 8; Length 164;
Best Local Similarity 98.8%; Pred. No. 4.2e-69;
Matches 162; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||  ||||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRDTNLLGFLQRSSNFQCQKLLWQLNGR 164
```

RESULT 3
ADS16354
ID ADS16354 standard; protein; 164 AA.
XX
AC ADS16354;
XX
DT 02-DEC-2004 (first entry)
XX
DE Human interferon (IFN) beta variant protein #11.
XX
KW Interferon; IFN; antiviral; antineoplastic; immunomodulator;
KW IFN related disorder; autoimmune disease; multiple sclerosis;
KW diabetes mellitus; lupus erythematosus; Crohn's disease; asthma; allergy;
KW psoriasis; viral infection; hepatitis C; hepatitis B; viral encephalitis;
KW cell proliferation disease; cancer; osteosarcoma; basal cell carcinoma;
KW multiple myeloma; chronic lymphocytic leukaemia; Kaposi's sarcoma;
KW renal-cell carcinoma; ovarian cancer; hairy-cell leukaemia;
KW Hodgkin's disease; gene therapy; human; IFN beta; circular; cyclic;
KW variant; mutant; mutein.
XX
OS Homo sapiens.

OS Synthetic.
XX
FH Key Location/Qualifiers
FT Cleavage-site 27. .28
FT Region 139. .140
FT /note= "Linker"
XX
PN US2004175359-A1.
XX
PD 09-SEP-2004.
XX
PF 30-SEP-2003; 2003US-00677093.
XX
PR 12-NOV-2002; 2002US-0425851P.
XX
PA (DESJ/) DESJARLAIS J R.
PA (MARS/) MARSHALL S A.
PA (MOYY/) MO Y.
PA (THOM/) THOMASON A R.
XX
PI Desjarlais JR, Marshall SA, Mo Y, Thomason AR;
XX
DR WPI; 2004-642104/62.
XX
PT Novel type 1 interferon (IFN) having antiviral, antineoplastic or
PT immunomodulatory activity same as wild-type IFN, and being circularly
PT permuted or cyclized to provide modulated characteristics, useful for
PT treating IFN related diseases.
XX
PS Claim 5; SEQ ID NO 45; 48pp; English.
XX
CC The present invention relates to a type 1 interferon (IFN) comprising
CC antiviral, antineoplastic and immunomodulatory activity similar to a
CC naturally occurring IFN and has been circularly permuted or cyclised and
CC has at least one modulated characteristic as compared to the naturally
CC occurring IFN. The invention is useful for treating IFN related disorder
CC which includes autoimmune diseases such as multiple sclerosis, diabetes
CC mellitus, lupus erythematosus, Crohn's disease, asthma, allergies and
CC psoriasis, viral infections such as hepatitis C, hepatitis B and viral
CC encephalitis and cell proliferation diseases or cancer such as
CC osteosarcoma, basal cell carcinoma, multiple myeloma, chronic lymphocytic
CC leukaemia, Kaposi's sarcoma, renal-cell carcinoma, ovarian cancer, hairy-
CC cell leukaemia and Hodgkin's disease. The invention is also useful in
CC gene therapy. The present sequence is human interferon (IFN) beta variant
CC protein.
XX
SQ Sequence 164 AA;

Query Match 98.4%; Score 850; DB 8; Length 164;
Best Local Similarity 98.8%; Pred. No. 4.2e-69;
Matches 162; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||  ||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRQSNLLGFLQRSSNFQCQKLLWQLNGR 164
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RESULT 4
AAU99377
ID AAU99377 standard; protein; 353 AA.
XX
AC AAU99377;
XX
DT 21-OCT-2002 (first entry)
XX
DE Mutant human interferon beta (IFN beta) single chain dimer, WT/WT.
XX
KW Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW antiulcer; neuroprotective; glycosylation;
KW single chain multimeric interferon beta; cytokine; antiviral;
KW antiproliferative; immunomodulatory; type I interferon; viral infection;
KW cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Region 1. .187
FT /note= "First interferon monomer"
FT Peptide 1. .21
FT /label= Signal_peptide
FT Protein 22. .353
FT /label= Mature_IFN_beta_dimer_WT/WT
FT Region 188. .353
FT /note= "Second interferon monomer"
XX
PN WO200236628-A2.
XX
PD 10-MAY-2002.
XX
PF 01-NOV-2001; 2001WO-DK000723.
XX
PR 02-NOV-2000; 2000DK-00001646.
XX
PA (MAXY-) MAXYGEN APS.
XX
PI Bornaes C, Andersen KV, Rasmussen PB, Pedersen AH;
XX
DR WPI; 2002-557420/59.
XX
PT Single chain multimeric interferon (IFN) beta polypeptide for treating
PT e.g. viral infections, comprises two linked monomers, where one monomer
PT is IFN beta monomer with an introduced glycosylation site.
XX
PS Example 5; Page; 93pp; English.
XX
CC The invention discloses a single chain multimeric interferon beta
CC polypeptide comprising two monomers linked through a peptide bond or a
CC peptide linker, where one of the monomers is an interferon beta monomer
CC having an amino acid sequence that differs from that of wild-type human
CC interferon beta in an introduced glycosylation site. Interferons are
CC important cytokines characterised by antiviral, antiproliferative and
CC immunomodulatory activities and interferon beta belong to the type I
CC class of interferons. The single chain multimeric interferon beta
CC polypeptide and/or compositions containing the polypeptide are useful for
CC treating viral infections, cancers, tumours or tumour angiogenesis,
CC carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC immunomodulation in any suitable animal. The polypeptide and/or
CC compositions are also useful for treating multiple sclerosis, hepatitis
CC and herpes infection, where the mammal has circulating antibodies against
CC interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC gene therapy applications for treating the above mentioned conditions.
CC The polypeptide or a conjugate comprising the polypeptide have a number
CC of improved properties as compared to human interferon beta, including
CC increased functional in vivo half-life, increased serum half-life,
CC reduced immunogenicity and/or increased bioavailability. Thus use of the
CC polypeptide, or conjugate, provides longer duration between injections,
CC fewer side effects and/or increased efficiency due to reduction in
CC antibodies. The sequence presented is the mutant human interferon beta
CC (IFN beta) single chain dimer, WT/WT. The protein is composed of the wild
CC -type IFN beta (AAU99369) linked to the mature protein region of a second
CC wild-type IFN beta. Note: This sequence is not shown in the specification

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CC   but has been created by the indexer using information given in example 5
XX
SQ   Sequence 353 AA;

  Query Match             97.0%;  Score 838;  DB 5;  Length 353;
  Best Local Similarity   97.6%;  Pred. No. 1.2e-67;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||    ||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214


RESULT 5
AAU99379
ID   AAU99379 standard; protein; 353 AA.
XX
AC   AAU99379;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, WT/G2.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_WT/G2
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, WT/G2. The protein is composed of the wild
CC   -type IFN beta (AAU99369) linked to the mature protein region of a G2
CC   mutein IFN beta (AAU99374). Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;

  Query Match             97.0%;  Score 838;  DB 5;  Length 353;
  Best Local Similarity   97.6%;  Pred. No. 1.2e-67;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||    ||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214


RESULT 6
AAU99378
ID   AAU99378 standard; protein; 353 AA.
XX
AC   AAU99378;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, WT/G1.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
```

```
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_WT/G1
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, WT/G1. The protein is composed of the wild
CC   -type IFN beta (AAU99369) linked to the mature protein region of a G1
CC   mutein IFN beta (AAU99373). Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;

  Query Match             97.0%;  Score 838;  DB 5;  Length 353;
  Best Local Similarity   97.6%;  Pred. No. 1.2e-67;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||  ||||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214


RESULT 7
AAU99389
ID   AAU99389 standard; protein; 369 AA.
XX
AC   AAU99389;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, WT/GLG/WT.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_WT/GLG/WT
FT   Region          188. .202
FT                   /note= "GLG linker (AAU99372)"
FT   Region          203. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
```

```
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, WT/GLG/WT. The protein is composed of the
CC   wild-type IFN beta (AAU99369) linked to the mature protein region of a
CC   second wild-type IFN beta via the GLG linker peptide (AAU99372). Note:
CC   This sequence is not shown in the specification but has been created by
CC   the indexer using information given in example 5
XX
SQ   Sequence 369 AA;

  Query Match             96.3%;  Score 832;  DB 5;  Length 369;
  Best Local Similarity   89.0%;  Pred. No. 4.4e-67;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels   18;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLRGD------------------NLLGFLQRSSNFQCQKLLWQLN 162
              ||||||||||||||||||                  ||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNGGGGSGGGNSTGGGGSMSYNLLGFLQRSSNFQCQKLLWQLN 228

Qy        163 GR 164
              ||
Db        229 GR 230


RESULT 8
AAU99381
ID   AAU99381 standard; protein; 353 AA.
XX
AC   AAU99381;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G1/G1.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G1/G1
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G1/G1. The protein is composed of the G1
CC   mutein IFN beta (AAU99373) linked to the mature protein region of a
CC   second G1 mutein IFN beta. Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;

  Query Match             95.7%;  Score 827;  DB 5;  Length 353;
  Best Local Similarity   96.4%;  Pred. No. 1.2e-66;
  Matches  160;  Conservative    0;  Mismatches    4;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||  ||||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214
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RESULT 9
AAU99380
ID   AAU99380 standard; protein; 353 AA.
XX
AC   AAU99380;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G1/WT.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G1/WT
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G1/WT. The protein is composed of the G1
CC   mutein IFN beta (AAU99373) linked to the mature protein region of a wild-
CC   type IFN beta (AAU99369). Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;

  Query Match             95.7%;  Score 827;  DB 5;  Length 353;
  Best Local Similarity   96.4%;  Pred. No. 1.2e-66;
  Matches  160;  Conservative    0;  Mismatches    4;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||    |||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214


RESULT 10
AAU99382
ID   AAU99382 standard; protein; 353 AA.
XX
AC   AAU99382;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G1/G2.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G1/G2
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
```

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XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G1/G2. The protein is composed of the G1
CC   mutein IFN beta (AAU99373) linked to the mature protein region of a G2
CC   mutein IFN beta (AAU99374). Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;

  Query Match             95.7%;  Score 827;  DB 5;  Length 353;
  Best Local Similarity   96.4%;  Pred. No. 1.2e-66;
  Matches  160;  Conservative    0;  Mismatches    4;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||    ||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214


RESULT 11
AAU99384
ID   AAU99384 standard; protein; 353 AA.
XX
AC   AAU99384;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G2/G2.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G2/G2
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G2/G2. The protein is composed of the G2
CC   mutein IFN beta (AAU99374) linked to the mature protein region of a
CC   second G2 mutein IFN beta. Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;
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  Query Match             94.0%;  Score 812;  DB 5;  Length 353;
  Best Local Similarity   95.2%;  Pred. No. 2.7e-65;
  Matches  158;  Conservative    0;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDNTTGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||    |||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214
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```
RESULT 12
AAU99383
ID   AAU99383 standard; protein; 353 AA.
XX
AC   AAU99383;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G2/G1.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G2/G1
FT   Region          188. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G2/G1. The protein is composed of the G2
CC   mutein IFN beta (AAU99374) linked to the mature protein region of a G1
CC   mutein IFN beta (AAU99373). Note: This sequence is not shown in the
CC   specification but has been created by the indexer using information given
CC   in example 5
XX
SQ   Sequence 353 AA;
```

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  Query Match             94.0%;  Score 812;  DB 5;  Length 353;
  Best Local Similarity   95.2%;  Pred. No. 2.7e-65;
  Matches  158;  Conservative    0;  Mismatches    6;  Indels    2;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDNTTGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR--GDNLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||    |||||||||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLRNMSYNLLGFLQRSSNFQCQKLLWQLNGR 214
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```
RESULT 13
AAU99385
ID   AAU99385 standard; protein; 368 AA.
XX
AC   AAU99385;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G8/GL/G8.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
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FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G8/GL/G8
FT   Region          188. .202
FT                   /note= "GL linker (AAU99371)"
FT   Region          203. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G8/GL/G8. The protein is composed of the
CC   G8 mutein IFN beta (AAU99375) linked to the mature protein region of a
CC   second G8 mutein IFN beta via the GL linker peptide (AAU99371). Note:
CC   This sequence is not shown in the specification but has been created by
CC   the indexer using information given in example 5
XX
SQ   Sequence 368 AA;

  Query Match             92.2%;  Score 796.5;  DB 5;  Length 368;
  Best Local Similarity   86.7%;  Pred. No. 7.3e-64;
  Matches  157;  Conservative    0;  Mismatches    7;  Indels   17;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||

Db        109 LANVYHQINHLKTVLEEKLEKEDNTTGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLRGD----------------NLLGFLQRSSNFQCQKLLWQLNG 163
              |||||||||||||||||||                |||||||||||| |||||||||
Db        169 VEILRNFYFINRLTGYLRNGGGGSGGGGSGGGGSMSYNLLGFLQRSSNFQSQKLLWQLNG 228

Qy        164 R 164
              |
Db        229 R 229


RESULT 14
AAU99386
ID   AAU99386 standard; protein; 369 AA.
XX
AC   AAU99386;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, G8/GLG/G8.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_G8/GLG/G8
FT   Region          188. .202
FT                   /note= "GLG linker (AAU99372)"
FT   Region          203. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
```

```
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, G8/GLG/G8. The protein is composed of the
CC   G8 mutein IFN beta (AAU99375) linked to the mature protein region of a
CC   second G8 mutein IFN beta via the GLG linker peptide (AAU99372). Note:
CC   This sequence is not shown in the specification but has been created by
CC   the indexer using information given in example 5
XX
SQ   Sequence 369 AA;

  Query Match             92.1%;  Score 796;  DB 5;  Length 369;
  Best Local Similarity   86.3%;  Pred. No. 8.1e-64;
  Matches  157;  Conservative    0;  Mismatches    7;  Indels   18;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||| | ||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDNTTGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLRGD-----------------NLLGFLQRSSNFQCQKLLWQLN 162
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Db        169 VEILRNFYFINRLTGYLRNGGGGSGGGNSTGGGGSMSYNLLGFLQRSSNFQSQKLLWQLN 228

Qy        163 GR 164
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Db        229 GR 230


RESULT 15
AAU99387
ID   AAU99387 standard; protein; 368 AA.
XX
AC   AAU99387;
XX
DT   21-OCT-2002  (first entry)
XX
DE   Mutant human interferon beta (IFN beta) single chain dimer, C10/GL/C10.
XX
KW   Human; interferon beta; IFN beta; virucide; cytostatic; antiinflammatory;
KW   antiulcer; neuroprotective; glycosylation;
KW   single chain multimeric interferon beta; cytokine; antiviral;
KW   antiproliferative; immunomodulatory; type I interferon; viral infection;
KW   cancer; tumour; tumour angiogenesis; carcinoma; cervical dysplasia;
KW   Crohn's disease; ulcerative colitis; Guillain-Barre syndrome; glioma;
KW   idiopathic pulmonary fibrosis; leukaemia; multiple myeloma;
KW   Hodgkin's disease; multiple sclerosis; hepatitis; herpes; interferon 1a;
KW   interferon 1b; gene therapy; dimer; mutant; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .187
FT                   /note= "First interferon monomer"
FT   Peptide         1. .21
FT                   /label= Signal_peptide
FT   Protein         22. .353
FT                   /label= Mature_IFN_beta_dimer_C10/GL/C10
FT   Region          188. .202
FT                   /note= "GL linker (AAU99371)"
FT   Region          203. .353
FT                   /note= "Second interferon monomer"
XX
PN   WO200236628-A2.
XX
PD   10-MAY-2002.
XX
PF   01-NOV-2001; 2001WO-DK000723.
XX
PR   02-NOV-2000; 2000DK-00001646.
XX
PA   (MAXY-) MAXYGEN APS.
XX
PI   Bornaes C,  Andersen KV,  Rasmussen PB,  Pedersen AH;
XX
DR   WPI; 2002-557420/59.
XX
PT   Single chain multimeric interferon (IFN) beta polypeptide for treating
PT   e.g. viral infections, comprises two linked monomers, where one monomer
PT   is IFN beta monomer with an introduced glycosylation site.
XX
PS   Example 5; Page; 93pp; English.
XX
CC   The invention discloses a single chain multimeric interferon beta
CC   polypeptide comprising two monomers linked through a peptide bond or a
CC   peptide linker, where one of the monomers is an interferon beta monomer
CC   having an amino acid sequence that differs from that of wild-type human
CC   interferon beta in an introduced glycosylation site. Interferons are
CC   important cytokines characterised by antiviral, antiproliferative and
CC   immunomodulatory activities and interferon beta belong to the type I
CC   class of interferons. The single chain multimeric interferon beta
CC   polypeptide and/or compositions containing the polypeptide are useful for
CC   treating viral infections, cancers, tumours or tumour angiogenesis,
CC   carcinomas, cervical dysplasia, Crohn's disease, ulcerative colitis,
CC   Guillain-Barre syndrome, glioma, idiopathic pulmonary fibrosis,
CC   leukaemia, multiple myeloma, Hodgkin's disease, abnormal cell growth and
CC   immunomodulation in any suitable animal. The polypeptide and/or
CC   compositions are also useful for treating multiple sclerosis, hepatitis
CC   and herpes infection, where the mammal has circulating antibodies against
CC   interferon 1a or 1b. Nucleic acid encoding the polypeptide is useful for
CC   gene therapy applications for treating the above mentioned conditions.
CC   The polypeptide or a conjugate comprising the polypeptide have a number
CC   of improved properties as compared to human interferon beta, including
CC   increased functional in vivo half-life, increased serum half-life,
CC   reduced immunogenicity and/or increased bioavailability. Thus use of the
CC   polypeptide, or conjugate, provides longer duration between injections,
CC   fewer side effects and/or increased efficiency due to reduction in
CC   antibodies. The sequence presented is the mutant human interferon beta
CC   (IFN beta) single chain dimer, C10/GL/C10. The protein is composed of the
CC   C10 mutein IFN beta (AAU99376) linked to the mature protein region of a
CC   second C10 mutein IFN beta via the GL linker peptide (AAU99371). Note:
CC   This sequence is not shown in the specification but has been created by
CC   the indexer using information given in example 5
XX
SQ   Sequence 368 AA;

  Query Match             90.1%;  Score 778.5;  DB 5;  Length 368;
  Best Local Similarity   84.5%;  Pred. No. 3.1e-62;
  Matches  153;  Conservative    3;  Mismatches    8;  Indels   17;  Gaps    1;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Db         49 LEYCLRDRMNFDIPEEIRQLQNFTKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              |||||||||||||||||||| | ||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEFNTTGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168
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Qy        121 VEILRNFYFINRLTGYLRGD-----------------NLLGFLQRSSNFQCQKLLWQLNG 163
              ||||||||||||||||||                   ||||||||||||  |:|||||||
Db        169 VEILRNFYFINRLTGYLRNGGGGSGGGGSGGGGSMSYNLLGFLQRSSNFQSQRLLWQLNG 228

Qy        164 R 164
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Db        229 R 229
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Search completed: May 9, 2006, 04:18:18
Job time : 187 secs

GenCore version 5.1.8
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OM protein - protein search, using sw model

Run on: May 9, 2006, 04:18:36 ; Search time 38 Seconds
(without alignments)
415.251 Million cell updates/sec

Title: US-10-677-093-35
Perfect score: 864
Sequence: 1 LEYCLKDRMNFDIPEEIKQL.....FLQRSSNFQCQKLLWQLNGR 164

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	723	83.7	187	1	IVHUB1	interferon beta-1
2	437.5	50.6	186	1	IVBOB2	interferon beta-2
3	427.5	49.5	186	1	IVHOBI	interferon beta-I
4	398.5	46.1	186	1	IVBOB3	interferon beta-3
5	378.5	43.8	186	1	IVBOB1	interferon beta-1
6	294.5	34.1	182	1	IVMSB	interferon beta pr
7	286.5	33.2	195	1	IVHO22	interferon alpha-I
8	275.5	31.9	184	2	JC5424	interferon beta pr
9	268	31.0	195	1	IVHO21	interferon alpha-I
10	256	29.6	184	1	IVHOA1	interferon alpha-I
11	256	29.6	184	1	IVHOA3	interferon alpha-I
12	256	29.6	184	1	IVHOA4	interferon alpha-I
13	255.5	29.6	195	1	IVBOII	interferon alpha-I
14	255	29.5	172	2	A61578	trophoblast protei
15	255	29.5	189	1	IVHU16	interferon alpha-I
16	255	29.5	189	2	I37584	IFN-alpha-N-protei
17	255	29.5	195	2	A61455	trophoblast protei
18	254.5	29.5	195	1	IVHUII	interferon omega-1
19	252.5	29.2	165	2	I78570	alpha 2 interferon
20	252.5	29.2	188	1	IVHUA2	interferon alpha-2
21	252	29.2	184	1	IVHOA2	interferon alpha-I
22	250	28.9	167	2	F25843	interferon alpha-J
23	250	28.9	189	1	IVHUA0	interferon alpha-7
24	250	28.9	189	1	IVHUA7	interferon alpha-5
25	250	28.9	189	2	I53102	interferon-alpha-J
26	249	28.8	195	2	I47068	trophoblast protei
27	249	28.8	195	2	I47097	trophoblast protei
28	248	28.7	189	1	IVHU14	interferon alpha-I
29	248	28.7	189	1	IVHU4B	interferon alpha-I
30	247.5	28.6	195	2	A53746	interferon, tropho
31	247	28.6	189	1	IVHUA9	interferon alpha-1
32	247	28.6	195	2	JS0204	trophoblast interf
33	247	28.6	195	2	S70011	interferon type I
34	247	28.6	195	2	I46398	interferon alpha -
35	247	28.6	195	2	I46974	interferon-omega45
36	246.5	28.5	195	2	S23751	trophoblast interf
37	246.5	28.5	195	2	A39505	trophoblast interf
38	246	28.5	176	2	I56314	interferon-alpha -
39	245	28.4	189	2	I51970	interferon precurs
40	245	28.4	195	2	I46975	interferon-omega20
41	245	28.4	195	2	I46972	interferon-omega44
42	244	28.2	189	2	I52347	interferon alpha-M
43	243.5	28.2	195	2	B39505	trophoblast protei
44	243.5	28.2	195	2	A40068	trophoblast protei
45	243	28.1	195	2	I47066	trophoblast protei

ALIGNMENTS

RESULT 1
IVHUB1
interferon beta-1 precursor [validated] - human
C;Species: Homo sapiens (man)
C;Date: 18-Aug-1982 #sequence_revision 18-Aug-1982 #text_change 09-Jul-2004
C;Accession: A93721; A93887; A91468; A93225; A93706; A93700; A93269; S04479; I56315; A0
R;Lawn, R.M.; Adelman, J.; Franke, A.E.; Houck, C.M.; Gross, M.; Najarian, R.; Goeddel,
Nucleic Acids Res. 9, 1045-1052, 1981
A;Title: Human fibroblast interferon gene lacks introns.
A;Reference number: A93721; MUID:81198952; PMID:6164984
A;Accession: A93721
A;Molecule type: DNA
A;Residues: 1-187 <LAW>
A;Cross-references: UNIPROT:P01574; UNIPARC:UPI000004775D; GB:V00535; NID:g32639; PIDN:C
R;Ohno, S.; Taniguchi, T.
Proc. Natl. Acad. Sci. U.S.A. 78, 5305-5309, 1981
A;Title: Structure of a chromosomal gene for human interferon beta.
A;Reference number: A93887
A;Accession: A93887
A;Molecule type: DNA
A;Residues: 1-187 <OHN>
A;Cross-references: UNIPARC:UPI000004775D
R;Taniguchi, T.; Ohno, S.; Fujii-Kuriyama, Y.; Muramatsu, M.
Gene 10, 11-15, 1980
A;Title: The nucleotide sequence of human fibroblast interferon cDNA.
A;Reference number: A91468; MUID:81005095; PMID:6157601
A;Accession: A91468
A;Molecule type: mRNA
A;Residues: 1-187 <TAN>
A;Cross-references: UNIPARC:UPI000004775D; GB:V00546; NID:g32735; PIDN:CAA23807.1; PID:g
R;Derynck, R.; Content, J.; DeClercq, E.; Volckaert, G.; Tavernier, J.; Devos, R.; Fiers
Nature 285, 542-547, 1980
A;Title: Isolation and structure of a human fibroblast interferon gene.
A;Reference number: A93225; MUID:80254542; PMID:6157094
A;Accession: A93225
A;Molecule type: DNA
A;Residues: 1-187 <DER>
A;Cross-references: UNIPARC:UPI000004775D; GB:V00546; NID:g32735; PIDN:CAA23807.1; PID:g
R;Houghton, M.; Eaton, M.A.W.; Stewart, A.G.; Smith, J.C.; Doel, S.M.; Cartlin, G.H.; Le
Nucleic Acids Res. 8, 2885-2894, 1980
A;Title: The complete amino acid sequence of human fibroblast interferon as deduced usin
A;Reference number: A93706; MUID:81053720; PMID:6159580
A;Accession: A93706
A;Molecule type: mRNA
A;Residues: 1-187 <HOU>
A;Cross-references: UNIPARC:UPI000004775D; GB:J00218; GB:K00616; GB:M11029; NID:g184626;
R;Houghton, M.; Stewart, A.G.; Doel, S.M.; Emtage, J.S.; Eaton, M.A.W.; Smith, J.C.; Pat
Nucleic Acids Res. 8, 1913-1931, 1980
A;Title: The amino-terminal sequence of human fibroblast interferon as deduced from reve
A;Reference number: A93700; MUID:81053854; PMID:6159597
A;Accession: A93700
A;Molecule type: mRNA

```
A;Residues: 1-68 <HO2>
A;Cross-references: UNIPARC:UPI0000173664
R;Wetzel, R.
Nature 289, 606-607, 1981
A;Title: Assignment of the disulphide bonds of leukocyte interferon.
A;Reference number: A93244; MUID:81123083; PMID:6162107
A;Contents: annotation; disulfide bond
R;Shepard, H.M.; Leung, D.; Stebbing, N.; Goeddel, D.V.
Nature 294, 563-565, 1981
A;Title: A single amino acid change in IFN-beta-1 abolishes its antiviral activity.
A;Reference number: A93269; MUID:82080683; PMID:6171735
A;Accession: A93269
A;Molecule type: mRNA
A;Residues: 71-161,'Y',163-187 <SHE>
A;Cross-references: UNIPARC:UPI0000173665
A;Experimental source: variant, clone pF526
A;Note: the loss of Cys-162 (and of the ability to form the essential disulfide bond) in
R;Utsumi, J.; Mizuno, Y.; Hosoi, K.; Okano, K.; Sawada, R.; Kajitani, M.; Sakai, I.; Nar
Eur. J. Biochem. 181, 545-553, 1989
A;Title: Characterization of four different mammalian-cell-derived recombinant human int
A;Reference number: S04479; MUID:89276336; PMID:2731537
A;Accession: S04479
A;Status: preliminary
A;Molecule type: protein
A;Residues: 22-187 <UTS>
A;Cross-references: UNIPARC:UPI000002BE76
R;May, L.T.; Sehgal, P.B.
J. Interferon Res. 5, 521-526, 1985
A;Title: On the relationship between human interferon alpha-1 and beta-1 genes.
A;Reference number: I56315; MUID:86035565; PMID:2414376
A;Accession: I56315
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-187 <RES>
A;Cross-references: UNIPARC:UPI000004775D; GB:M28622; NID:g184624; PIDN:AAA36040.1; PID:
C;Genetics:
A;Gene: GDB:IFNB1; IFNB
A;Cross-references: GDB:120522; OMIM:147640
A;Map position: 9p21-9p21
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-187/Product: interferon beta-1 #status experimental <MAT>
F;52-162/Disulfide bonds: #status predicted

  Query Match             83.7%;  Score 723;  DB 1;  Length 187;
  Best Local Similarity   100.0%;  Pred. No. 3.9e-53;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLR 186


RESULT 2
IVBOB2
interferon beta-2 precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 15-Nov-1984 #sequence_revision 15-Nov-1984 #text_change 09-Jul-2004
C;Accession: A01840
R;Leung, D.W.; Capon, D.J.; Goeddel, D.V.
Bio/Technology 2, 458-464, 1984
A;Title: The structure and bacterial expression of three distinct bovine interferon-beta
A;Reference number: A90097
A;Accession: A01840
A;Molecule type: DNA
A;Residues: 1-186 <LEU>
A;Cross-references: UNIPROT:P01576; UNIPARC:UPI000012D64C
C;Superfamily: interferon alpha
C;Keywords: glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-186/Product: interferon beta-2 #status predicted <MAT>
F;52-161/Disulfide bonds: #status predicted
F;131,173/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             50.6%;  Score 437.5;  DB 1;  Length 186;
  Best Local Similarity   58.4%;  Pred. No. 2.2e-29;
  Matches   80;  Conservative   29;  Mismatches   27;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              ::||: ||:| :|||:|| |||||||| | |||||| || | :| |||||:|||:|:||
Db         50 QHCLEARMDFQMPEEMKQAQQFQKEDAILVIYEMLQQIFNILTRDFSSTGWSETIIEDLL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                :| |:||: : :| ::|:: | |   : |||::|| :: |||:|||: ||||:|||
Db        110 EELYEQMNHLEPIQKEIMQKQNSTMGD-TTVLHLRKYYFNLVQYLKSKEYNRCAWTVVRV 168

Qy        122 EILRNFYFINRLTGYLR 138
              :||||| |: |||||||
Db        169 QILRNFSFLTRLTGYLR 185


RESULT 3
IVHOBI
interferon beta-I precursor - horse
N;Alternate names: EqIFN-beta-I; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: G24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interfero
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: G24912
A;Molecule type: mRNA
A;Residues: 1-186 <HIM>
A;Cross-references: UNIPROT:P05012; UNIPARC:UPI000002C9FB; GB:M14546; NID:g164228; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral; glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-186/Product: interferon beta-I #status predicted <MAT>
F;101,136/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             49.5%;  Score 427.5;  DB 1;  Length 186;
  Best Local Similarity   61.5%;  Pred. No. 1.5e-28;
  Matches   83;  Conservative   23;  Mismatches   28;  Indels    1;  Gaps    1;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              | :| ||| :||||:| |||||||||| ||||||: : |||:: :||||||||:|||
Db         52 CPEDTMNFQVPEEIEQAQQFQKEDAALVIYEMLQHTWRIFRRNFASTGWNETIVKNLLVE 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              |: |:: |:| ||| :|:|  | |   : | ||:|||||  |||||:|||||||:|: |:
Db        112 VHLQMDRLETNLEEIMEEESSTWGN-TTILRLKKYYGRISQYLKAKKYSHCAWTVVQAEM 170

Qy        124 LRNFYFINRLTGYLR 138
              |||  |:| || ||:
Db        171 LRNLAFLNGLTDYLQ 185


RESULT 4
IVBOB3
interferon beta-3 precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 15-Nov-1984 #sequence_revision 15-Nov-1984 #text_change 09-Jul-2004
C;Accession: A01841
R;Leung, D.W.; Capon, D.J.; Goeddel, D.V.
Bio/Technology 2, 458-464, 1984
```

```
A;Title: The structure and bacterial expression of three distinct bovine interferon-beta
A;Reference number: A90097
A;Accession: A01841
A;Molecule type: DNA
A;Residues: 1-186 <LEU>
A;Cross-references: UNIPROT:P01577; UNIPARC:UPI000012D64E
C;Superfamily: interferon alpha
C;Keywords: glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-186/Product: interferon beta-3 #status predicted <MAT>
F;52-161/Disulfide bonds: #status predicted
F;131,173/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             46.1%;  Score 398.5;  DB 1;  Length 186;
  Best Local Similarity   53.3%;  Pred. No. 3.8e-26;
  Matches   73;  Conservative   32;  Mismatches   31;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              ::||: :|:| :|||: | |||:|||| | |||||| || |  :| |||||:|||:|:||
Db         50 QHCLEAKMDFQVPEEMNQAQQFRKEDAILVIYEMLQQIFNILTRDFSSTGWSETIIEDLL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                 :| |:| |: : :| :::::|| |   : ||||:||  :: ||::|||: ||||:|||
Db        110 VELYGQMNRLQPIQKEIMQEQNFTMGD-TTVLHLKKYYFNLVQYLESKEYNRCAWTVVRV 168

Qy        122 EILRNFYFINRLTGYLR 138
              :||.|| |: |||  ||
Db        169 QILTNFSFLMRLTASLR 185


RESULT 5
IVBOB1
interferon beta-1 precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 15-Nov-1984 #sequence_revision 15-Nov-1984 #text_change 09-Jul-2004
C;Accession: A01842
R;Leung, D.W.; Capon, D.J.; Goeddel, D.V.
Bio/Technology 2, 458-464, 1984
A;Title: The structure and bacterial expression of three distinct bovine interferon-beta
A;Reference number: A90097
A;Accession: A01842
A;Molecule type: DNA
A;Residues: 1-186 <LEU>
A;Cross-references: UNIPROT:P01578; UNIPARC:UPI000012D64B
C;Superfamily: interferon alpha
C;Keywords: glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-186/Product: interferon beta-1 #status predicted <MAT>
F;52-161/Disulfide bonds: #status predicted
F;131,173/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             43.8%;  Score 378.5;  DB 1;  Length 186;
  Best Local Similarity   51.1%;  Pred. No. 1.8e-24;
  Matches   70;  Conservative   33;  Mismatches   33;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              ::||: ||:| :|||:|| |||||||| | :||:||:|| |  :| |||||:|||:|:||
Db         50 QHCLEARMDFQMPEEMKQEQQFQKEDAILVMYEVLQHIFGILTRDFSSTGWSETIIEDLL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                 :| |:| |: : :| ::|::|  |     :    || :||  :: ||::|||  ||||:|:|
Db        110 KELYWQMNRLQPIQKEIMQKQNSTTEDTIVP-HLGKYYFNLMQYLESKEYDRCAWTVVQV 168

Qy        122 EILRNFYFINRLTGYLR 138
              :|| |  |: |||||:|
Db        169 QILTNVSFLMRLTGYVR 185


RESULT 6
IVMSB
interferon beta precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 03-Aug-1984 #sequence_revision 03-Aug-1984 #text_change 09-Jul-2004
C;Accession: S02020; S04201; A01839
R;Vodjdani, G.; Coulombel, C.; Doly, J.
J. Mol. Biol. 204, 221-231, 1988
A;Title: Structure and characterization of a murine chromosomal fragment containing the
A;Reference number: S02020; MUID:89125582; PMID:3221389
A;Accession: S02020
A;Molecule type: DNA
A;Residues: 1-182 <VOD>
A;Cross-references: UNIPROT:P01575; UNIPARC:UPI0000022EE3; EMBL:X14029; NID:g51550; PIDN
R;Kuga, T.; Fujita, T.; Taniguchi, T.
Nucleic Acids Res. 17, 3291, 1989
A;Title: Nucleotide sequence of the mouse interferon-beta gene.
A;Reference number: S04201; MUID:89263735; PMID:2726460
A;Accession: S04201
A;Status: translation not shown
A;Molecule type: DNA
A;Residues: 1-182 <KUG>
A;Cross-references: UNIPARC:UPI0000022EE3; EMBL:X14455; NID:g51538; PIDN:CAA32625.1; PII
R;Higashi, Y.; Sokawa, Y.; Watanabe, Y.; Kawade, Y.; Ohno, S.; Takaoka, C.; Taniguchi, T
J. Biol. Chem. 258, 9522-9529, 1983
A;Title: Structure and expression of a cloned cDNA for mouse interferon-beta.
A;Reference number: A01839; MUID:83265757; PMID:6688252
A;Accession: A01839
A;Molecule type: mRNA
A;Residues: 1-182 <HIG>
A;Cross-references: UNIPARC:UPI0000022EE3; GB:K00020; NID:g194113; PIDN:AAA37891.1; PID:
C;Genetics:
A;Map position: 4
C;Superfamily: interferon alpha
C;Keywords: glycoprotein
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-182/Product: interferon beta #status predicted <MAT>
F;50,90,97/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             34.1%;  Score 294.5;  DB 1;  Length 182;
  Best Local Similarity   50.4%;  Pred. No. 1.7e-17;
  Matches   64;  Conservative   17;  Mismatches   43;  Indels    3;  Gaps    2;

Qy          8 RMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQ 67
              | :| || |:   :: ||   |  | |||||:| :|| : ||||||||||  ||  :: |
Db         54 RADFKIPMEM--TEKMQKSYTAFAIQEMLQNVFLVFRNNFSSTGWNETIVVRLLDELHQQ 111

Qy         68 INHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNF 127
                |||||||| ::|  |      ::|||| || |:  |||  :|:  || :|| || |||
Db        112 TVFLKTVLEEK-QEERLTWEMSSTALHLKSYYWRVQRYLKLMKYNSYAWMVVRAEIFRNF 170

Qy        128 YFINRLT 134
              | |||
Db        171 LIIRRLT 177


RESULT 7
IVHO22
interferon alpha-II-2 precursor - horse
N;Alternate names: EqIFN-alpha-II-2; EqIFN-omega-2; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: F24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interferc
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: F24912
A;Molecule type: DNA
A;Residues: 1-195 <HIM>
A;Cross-references: UNIPROT:P05002; UNIPARC:UPI000002CA65; GB:M14545; NID:g164217; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral; glycoprotein
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: interferon alpha-II-2 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted
F;101/Binding site: carbohydrate (Asn) (covalent) #status predicted
```

```
  Query Match             33.2%;  Score 286.5;  DB 1;  Length 195;
  Best Local Similarity   41.4%;  Pred. No. 8.4e-17;
  Matches   58;  Conservative   29;  Mismatches   50;  Indels    3;  Gaps    1;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:::  :|| :  ||  ::|||| ||::|  : ||  || |::: |
Db         52 CLKDRKDFRFPQDMADGRQFPEAQAASVLHEMLQQIFSLFHTERSSAAWNTTLLDELCTG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :  |:  | | ||::: :|:   | :  :| :|||:  |  ||| |:|| ||| |||:||
Db        112 LLRQLEDLDTCLEQEMGEEESALGTVRPTLAVKRYFRGIHLYLKEKKYSDCAWEIVRMEI 171

Qy        124 LRNFYFINRLTGYLR---GD 140
              :|:|     | | ||   ||
Db        172 MRSFSSSANLQGRLRMKDGD 191


RESULT 8
JC5424
interferon beta precursor - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Jun-1997 #sequence_revision 18-Jul-1997 #text_change 09-Jul-2004
C;Accession: JC5424
R;Yokoyama, S.; Ohishi, N.; Shamoto, M.; Watanabe, Y.; Yagi, K.
Biochem. Biophys. Res. Commun. 232, 698-701, 1997
A;Title: Isolation and expression of rat interferon beta gene and growth-inhibitory effe
A;Reference number: JC5424; MUID:97271387; PMID:9126338
A;Accession: JC5424
A;Molecule type: DNA
A;Residues: 1-184 <YOK>
A;Cross-references: UNIPROT:P70499; UNIPARC:UPI000012D652; DDBJ:D87919; NID:g1616938; PI
C;Comment: This protein exhibits characteristic antiviral and antitumor activities.
C;Genetics:
A;Gene: IFNbeta
C;Superfamily: interferon alpha
F;1-21/Domain: signal sequence #status predicted <SIG>
F;22-184/Product: interferon beta #status predicted <MAT>

  Query Match             31.9%;  Score 275.5;  DB 2;  Length 184;
  Best Local Similarity   45.7%;  Pred. No. 6.5e-16;
  Matches   59;  Conservative   21;  Mismatches   48;  Indels    1;  Gaps    1;

Qy          5 LKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANV 64
              |  | :| || |:    :|   |  |  ||||:| :|| : ||||||||||:||  :
Db         51 LSYRTDFKIPMEVMHPSQMEKSYTAFAIQVMLQNVFLVFRSNFSSTGWNETIVESLLDEL 110

Qy         65 YHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEIL 124
              :  |   |: :|:|| ::|  |     ::| || || |:  ||| |:|:  || :|| |:
Db        111 HQQTELLEIILKEK-QEERLTWVTSTTTLGLKSYYWRVQRYLKDKKYNSYAWMVVRAEVF 169

Qy        125 RNFYFINRL 133
              |||  | ||
Db        170 RNFSIILRL 178


RESULT 9
IVHO21
interferon alpha-II-1 precursor - horse
N;Alternate names: EqIFN-alpha-II-1; EqIFN-omega-1; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: E24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interferc
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: E24912
A;Molecule type: DNA
A;Residues: 1-195 <HIM>
A;Cross-references: UNIPROT:P05001; UNIPARC:UPI000002C9FC; GB:M14544; NID:g164230; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral; glycoprotein
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: interferon alpha-II-1 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted
F;101/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             31.0%;  Score 268;  DB 1;  Length 195;
  Best Local Similarity   41.0%;  Pred. No. 2.9e-15;
  Matches   55;  Conservative   26;  Mismatches   53;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||| | :|  |:|    :|| :  |   : |||| | ::|  : ||  || |::: |||
Db         52 CLKHRTDFRFPQEQLDGRQFPEAQATSVLQEMLQQIVSLFHTERSSAAWNTTLLDRLLAG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :: |:  | | |:|:  :|:    | :  :| :|||: ||  ||  |:|| ||| ||||:|
Db        112 LHQQLEDLNTCLDEQTGEEESALGTVGPTLAVKRYFRRIRLYLTEKKYSDCAWEIVRVDI 171

Qy        124 LRNFYFINRLTGYL 137
              :|:|     | | |
Db        172 MRSFSSSANLQGRL 185


RESULT 10
IVHOA1
interferon alpha-I-1 precursor - horse
N;Alternate names: EqIFN-alpha-I-1; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: A24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interfero
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: A24912
A;Molecule type: DNA
A;Residues: 1-184 <HIM>
A;Cross-references: UNIPROT:P05003; UNIPARC:UPI000002C9F9; GB:M14540; NID:g164226; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-184/Product: interferon alpha-I-1 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted

  Query Match             29.6%;  Score 256;  DB 1;  Length 184;
  Best Local Similarity   39.5%;  Pred. No. 2.7e-14;
  Matches   49;  Conservative   27;  Mismatches   48;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:|    ||:|  |   ::| :| || :|  | ||  |:|::: |
Db         52 CLKDRNDFGFPQEVFDGNQFRKPQAISAVHETIQQIFHLFSTDGSSAAWDESLLDKLYTG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :| |:  |:  | :::  |:       | | ::||: ||  ||: |:|| ||| || ||
Db        112 LYQQLTELEACLSQEVGVEETPLMNEDSLLAVRRYFQRIALYLQEKKYSPCAWEIVRAEI 171

Qy        124 LRNF 127
              :|:|
Db        172 MRSF 175


RESULT 11
IVHOA3
interferon alpha-I-3 precursor - horse
N;Alternate names: EqIFN-alpha-I-3; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: C24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interfero
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: C24912
A;Molecule type: DNA
A;Residues: 1-184 <HIM>
```

```
A;Cross-references: UNIPROT:P05005; UNIPARC:UPI000002CA64; GB:M14542; NID:g164222; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-184/Product: interferon alpha-I-3 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted

  Query Match             29.6%;  Score 256;  DB 1;  Length 184;
  Best Local Similarity   39.5%;  Pred. No. 2.7e-14;
  Matches   49;  Conservative   27;  Mismatches   48;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:|:    ||:|  |   ::| :| || :|  | ||  |:|:::: |
Db         52 CLKDRNDFGFPQEVFDGNQFRKPQAISAVHETIQQIFHLFSTDGSSAAWDESLLDKLYTG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :| |:  |:  | :::  |:      | | ::||: ||  ||: |:|| ||| ||| ||
Db        112 LYQQLTELEACLSQEVGVEETPLMNEDSLLAVRRYFQRIALYLQEKKYSPCAWEIVRAEI 171

Qy        124 LRNF 127
              :|:|
Db        172 MRSF 175


RESULT 12
IVHOA4
interferon alpha-I-4 precursor - horse
N;Alternate names: EqIFN-alpha-I-4; type I interferon
C;Species: Equus caballus (domestic horse)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: D24912
R;Himmler, A.; Hauptmann, R.; Adolf, G.R.; Swetly, P.
DNA 5, 345-356, 1986
A;Title: Molecular cloning and expression in Escherichia coli of equine type I interferc
A;Reference number: A90956; MUID:87053170; PMID:3022999
A;Accession: D24912
A;Molecule type: DNA
A;Residues: 1-184 <HIM>
A;Cross-references: UNIPROT:P05006; UNIPARC:UPI000002CA66; GB:M14543; NID:g164224; PIDN:
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-184/Product: interferon alpha-I-4 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted

  Query Match             29.6%;  Score 256;  DB 1;  Length 184;
  Best Local Similarity   39.5%;  Pred. No. 2.7e-14;
  Matches   49;  Conservative   27;  Mismatches   48;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:|:    ||:|  |   ::| :| || :|  | ||  |:|:::: |
Db         52 CLKDRNDFGFPQEVFDGNQFRKPQAISAVHETIQQIFHLFSTDGSSAAWDESLLDKLYTG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :| |:  |:  | :::  |:      | | ::||: ||  ||: |:|| ||| ||| ||
Db        112 LYQQLTELEACLSQEVGVEETPLMNEDSLLAVRRYFQRITLYLQEKKYSPCAWEIVRAEI 171

Qy        124 LRNF 127
              :|:|
Db        172 MRSF 175


RESULT 13
IVBOII
interferon alpha-II-1 precursor - bovine
N;Alternate names: BoIFN-alpha-II-1; BoIFN-omega-1
C;Species: Bos primigenius taurus (cattle)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: B23285
R;Capon, D.J.; Shepard, H.M.; Goeddel, D.V.
Mol. Cell. Biol. 5, 768-779, 1985
A;Title: Two distinct families of human and bovine interferon-alpha genes are coordinate
A;Reference number: A93070; MUID:85187974; PMID:2985969
A;Accession: B23285
A;Molecule type: DNA
A;Residues: 1-195 <CAP>
A;Cross-references: UNIPROT:P07352; UNIPARC:UPI000012D689; GB:M11002; NID:g163177; PIDN:
A;Experimental source: pancreas
C;Comment: Viral infection induces coordinate expression of both alpha-I and alpha-II (c
C;Superfamily: interferon alpha
C;Keywords: antiviral
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: interferon alpha-II-1 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted

  Query Match             29.6%;  Score 255.5;  DB 1;  Length 195;
  Best Local Similarity   38.3%;  Pred. No. 3.2e-14;
  Matches   54;  Conservative   29;  Mismatches   55;  Indels    3;  Gaps    1;

Qy          3 YCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLA 62
              :||:|| :|  |:|: :: |||:  |   ::|||| | :| :: ||  |: |::| ||
Db         51 FCLQDRKDFAFPQEMVEVSQFQEAQAISVLHEMLQQSFNLFHKERSSAAWDTTLLEQLLT 110

Qy         63 NVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVE 122
              :: |:: |   |     :||   |:   :| :|||:  |  ||: | || ||| |||:|
Db        111 GLHQQLDDLDACLGLLTGEEDSALGRTGPTLAMKRYFQGIHVYLQEKGYSDCAWEIVRLE 170

Qy        123 ILRNFYFINRLTGYLR---GD 140
              |:|:      |   ||   ||
Db        171 IMRSLSSSTSLQERLRMMDGD 191


RESULT 14
A61578
trophoblast protein 1 (clone SPW49) - sheep (fragment)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 17-Mar-1999
C;Accession: A61578
R;Watkins, S.P.; Jeacock, M.K.; Savva, D.; Shepherd, D.A.L.
Int. J. Biochem. 23, 1013-1018, 1991
A;Title: Ovine trophoblast protein-one: evidence for possible glycosylation.
A;Reference number: A61578; MUID:92155417; PMID:1786844
A;Accession: A61578
A;Molecule type: mRNA
A;Residues: 1-172 <WAT>
A;Cross-references: UNIPARC:UPI0000176720
C;Superfamily: interferon alpha
C;Keywords: glycoprotein; pregnancy maintenance
F;78/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             29.5%;  Score 255;  DB 2;  Length 172;
  Best Local Similarity   40.2%;  Pred. No. 3e-14;
  Matches   49;  Conservative   26;  Mismatches   47;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||:|| :| :|:|: :  | ||: |   :|||||  | :|  : ||  || |::| |
Db         29 CLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEMLQQSFNVFHTEHSSAAWNTTLLEQLCTG 88

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :  |::|| |     : ::|   ||:   : :|:|:  |  ||: | || ||| |||||:
Db         89 LQQQLDHLDTCKGPVMGEKDSELGKMDPIVTVKKYFQGIHDYLQEKGYSDCAWEIVRVEM 148

Qy        124 LR 125
              :|
Db        149 MR 150


RESULT 15
IVHU16
interferon alpha-I-16 precursor - human
N;Alternate names: HuIFN-alpha-I-16; interferon alpha-I-WA; type I interferon
C;Species: Homo sapiens (man)
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 09-Jul-2004
C;Accession: G23753; A22068; I73334
R;Henco, K.; Brosius, J.; Fujisawa, A.; Fujisawa, J.I.; Haynes, J.R.; Hochstadt, J.; Kov
J. Mol. Biol. 185, 227-260, 1985
```

A;Title: Structural relationship of human interferon alpha genes and pseudogenes.
A;Reference number: A92916; MUID:86037205; PMID:4057246
A;Accession: G23753
A;Molecule type: DNA
A;Residues: 1-189 <HEN>
A;Cross-references: UNIPROT:P05015; UNIPARC:UPI0000047763; GB:X02957; NID:g32653; PIDN:C
R;Torczynski, R.M.; Fuke, M.; Bollon, A.P.
Proc. Natl. Acad. Sci. U.S.A. 81, 6451-6455, 1984
A;Title: Human genomic library screened with 17-base oligonucleotide probes yields a nov
A;Reference number: A22068; MUID:85038533; PMID:6387705
A;Accession: A22068
A;Molecule type: DNA
A;Residues: 1-189 <TOR>
A;Cross-references: UNIPARC:UPI0000047763; GB:K02055; NID:g184620; PIDN:AAA52727.1; PID:
R;Gren, E.; Berzin, V.M.; Jansone, I.; Tsimanis, A.; Vishnevsky, Y.; Apsalons, U.
J. Interferon Res. 4, 609-617, 1984
A;Title: Novel human leukocyte interferon subtype and structural comparison of alpha int
A;Reference number: I56313; MUID:85056523; PMID:6548765
A;Accession: I73334
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-189 <RES>
A;Cross-references: UNIPARC:UPI0000047763; GB:M28585; NID:g184643; PIDN:AAA36042.1; PID:
C;Genetics:
A;Gene: GDB:IFNA16
A;Cross-references: GDB:136357; OMIM:147580
A;Map position: 9p22-9p22
A;Introns: #status absent
C;Superfamily: interferon alpha
C;Keywords: antiviral; cytokine; leukocyte
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-189/Product: interferon alpha-I-16 #status predicted <MAT>
F;24-122,52-162/Disulfide bonds: #status predicted

Query Match 29.5%; Score 255; DB 1; Length 189;
Best Local Similarity 37.0%; Pred. No. 3.4e-14;
Matches 50; Conservative 27; Mismatches 58; Indels 0; Gaps 0;

```
Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:|:    ||||  |    :||:|  | :|    ||  |:||:::
Db         52 CLKDRYDFGFPQEVFDGNQFQKAQAISAFHEMIQQTFNLFSTKDSSAAWDETLLDKFYIE 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :: |:| |:  : :::  |:       | | :::|: ||  ||  |:|| ||| :|| ||
Db        112 LFQQLNDLEACVTQEVGVEEIALMNEDSILAVRKYFQRITLYLMGKKYSPCAWEVVRAEI 171

Qy        124 LRNFYFINRLTGYLR 138
              :|:| |   |   ||
Db        172 MRSFSFSTNLQKGLR 186
```

Search completed: May 9, 2006, 04:22:55
Job time : 38 secs

GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

Run on: May 9, 2006, 04:15:21 ; Search time 228 Seconds
(without alignments)
507.485 Million cell updates/sec

Title: US-10-677-093-35
Perfect score: 864
Sequence: 1 LEYCLKDRMNFDIPEEIKQL.....FLQRSSNFQCQKLLWQLNGR 164

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	723	83.7	187	1	IFNB_HUMAN	P01574 homo sapien
2	723	83.7	187	2	Q5VWC9_HUMAN	Q5vwc9 homo sapien
3	686	79.4	187	1	IFNB_MACFA	O77812 macaca fasc
4	684	79.2	187	2	Q15943_HUMAN	Q15943 homo sapien
5	451.5	52.3	186	2	Q68IQ4_PIG	Q68iq4 sus scrofa
6	451.5	52.3	186	2	Q29412_PIG	Q29412 sus scrofa
7	447.5	51.8	186	1	IFNB_FELCA	Q9n2j0 felis silve
8	437.5	50.6	186	1	IFNB2_BOVIN	P01576 bos taurus
9	427.5	49.5	186	1	IFNB_HORSE	P05012 equus cabal
10	398.5	46.1	186	1	IFNB3_BOVIN	P01577 bos taurus
11	378.5	43.8	186	1	IFNB1_BOVIN	P01578 bos taurus
12	294.5	34.1	182	1	IFNB_MOUSE	P01575 mus musculu
13	289	33.4	183	2	Q7YRX8_MACEU	Q7yrx8 macropus eu
14	288.5	33.4	187	2	Q6XZW6_9MAMM	Q6xzw6 tachyglossu
15	286.5	33.2	195	1	IFNW2_HORSE	P05002 equus cabal
16	279.5	32.3	183	2	Q7YRX6_MACEU	Q7yrx6 macropus eu
17	278	32.2	183	2	Q7YRX7_MACEU	Q7yrx7 macropus eu
18	275.5	31.9	184	1	IFNB_RAT	P70499 rattus norv
19	268	31.0	195	1	IFNW1_HORSE	P05001 equus cabal
20	260.5	30.2	195	1	IFNT_CEREL	O46633 cervus elap
21	260.5	30.2	195	2	Q5IS27_BOSGF	Q5is27 bos gaurus
22	260	30.1	195	2	Q9GLL5_BOVIN	Q9gll5 bos taurus
23	257.5	29.8	195	2	Q5IS28_BUBBU	Q5is28 bubalus bub
24	256.5	29.7	172	1	IFNT2_BOVIN	P56830 bos taurus
25	256	29.6	184	1	IFNA1_HORSE	P05003 equus cabal
26	256	29.6	184	1	IFNA3_HORSE	P05005 equus cabal
27	256	29.6	184	1	IFNA4_HORSE	P05006 equus cabal
28	255.5	29.6	195	1	IFNW1_BOVIN	P07352 bos taurus
29	255	29.5	189	1	IFN16_HUMAN	P05015 homo sapien
30	255	29.5	189	2	Q14618_HUMAN	Q14618 homo sapien
31	255	29.5	189	2	Q5VV12_HUMAN	Q5vv12 homo sapien
32	255	29.5	195	1	IFNT6_SHEEP	Q29429 ovis aries
33	255	29.5	195	2	Q28844_RABIT	Q28844 oryctolagus
34	254.5	29.5	172	2	Q5U802_HUMAN	Q5u802 homo sapien
35	254.5	29.5	195	1	IFNW1_HUMAN	P05000 homo sapien
36	254.5	29.5	195	2	Q5VWD0_HUMAN	Q5vwd0 homo sapien
37	254	29.4	195	2	Q6UZ47_CAPHI	Q6uz47 capra hircu
38	252.5	29.2	166	2	Q86UP4_HUMAN	Q86up4 homo sapien
39	252.5	29.2	188	1	IFNA2_HUMAN	P01563 homo sapien
40	252.5	29.2	188	2	Q6DJX8_HUMAN	Q6djx8 homo sapien
41	252.5	29.2	195	2	Q52NK2_BOVIN	Q52nk2 bos taurus
42	252	29.2	184	1	IFNA2_HORSE	P05004 equus cabal
43	251	29.1	189	2	Q95J77_SAGOE	Q95j77 saguinus oe
44	251	29.1	189	2	Q95J78_SAGOE	Q95j78 saguinus oe
45	250	28.9	189	1	IFNA5_HUMAN	P01569 homo sapien

ALIGNMENTS

```
RESULT 1
IFNB_HUMAN
ID   IFNB_HUMAN     STANDARD;      PRT;   187 AA.
AC   P01574;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta precursor (IFN-beta) (Fibroblast interferon).
GN   Name=IFNB1; Synonyms=IFB, IFNB;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=81198952; PubMed=6164984;
RA   Lawn R.M., Adelman J., Franke A.E., Houck C.M., Gross M., Najarian R.,
RA   Goeddel D.V.;
RT   "Human fibroblast interferon gene lacks introns.";
RL   Nucleic Acids Res. 9:1045-1052(1981).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RA   Ohno S., Taniguchi T.;
RT   "Structure of a chromosomal gene for human interferon beta.";
RL   Proc. Natl. Acad. Sci. U.S.A. 78:5305-5309(1981).
RN   [3]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=81005095; PubMed=6157601; DOI=10.1016/0378-1119(80)90138-9;
RA   Taniguchi T., Ohno S., Fujii-Kuriyama Y., Muramatsu M.;
RT   "The nucleotide sequence of human fibroblast interferon cDNA.";
RL   Gene 10:11-15(1980).
RN   [4]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=80254542; PubMed=6157094;
RA   Derynck R., Content J., Declercq E., Volckaert G., Tavernier J.,
RA   Devos R., Fiers W.;
RT   "Isolation and structure of a human fibroblast interferon gene.";
RL   Nature 285:542-547(1980).
RN   [5]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=81053720; PubMed=6159580;
RA   Houghton M., Eaton M.A.W., Stewart A.G., Smith J.C., Doel S.M.,
RA   Cartlin G.H., Lewis H.M., Patel T.P., Emtage J.S., Carey N.H.,
RA   Porter A.G.;
RT   "The complete amino acid sequence of human fibroblast interferon as
RT   deduced using synthetic oligodeoxyribonucleotide primers of reverse
RT   transcriptase.";
RL   Nucleic Acids Res. 8:2885-2894(1980).
RN   [6]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=81053752; PubMed=6159584;
RA   Goeddel D.V., Shepard H.M., Yelverton E., Leung D., Crea R., Sloma A.,
RA   Pestka S.;
```

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RT   "Synthesis of human fibroblast interferon by E. coli.";
RL   Nucleic Acids Res. 8:4057-4074(1980).
RN   [7]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=86035565; PubMed=2414376;
RA   May L.T., Sehgal P.B.;
RT   "On the relationship between human interferon alpha 1 and beta 1
RT   genes.";
RL   J. Interferon Res. 5:521-526(1985).
RN   [8]
RP   NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [9]
RP   NUCLEOTIDE SEQUENCE OF 1-68.
RX   MEDLINE=81053854; PubMed=6159597;
RA   Houghton M., Stewart A.G., Doel S.M., Emtage J.S., Eaton M.A.W.,
RA   Smith J.C., Patel T.P., Lewis H.M., Porter A.G., Birch J.R.,
RA   Cartwright T., Carey N.H.;
RT   "The amino-terminal sequence of human fibroblast interferon as deduced
RT   from reverse transcripts obtained using synthetic oligonucleotide
RT   primers.";
RL   Nucleic Acids Res. 8:1913-1931(1980).
RN   [10]
RP   DISULFIDE BOND.
RX   MEDLINE=81123083; PubMed=6162107;
RA   Wetzel R.;
RT   "Assignment of the disulphide bonds of leukocyte interferon.";
RL   Nature 289:606-607(1981).
RN   [11]
RP   NUCLEOTIDE SEQUENCE OF 71-187 (VARIANT CLONE PF526).
RX   MEDLINE=82080683; PubMed=6171735;
RA   Shepard H.M., Leung D., Stebbing N., Goeddel D.V.;
RT   "A single amino acid change in IFN-beta1 abolishes its antiviral
RT   activity.";
RL   Nature 294:563-565(1981).
RN   [12]
RP   X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS).
RX   MEDLINE=98004481; PubMed=9342320; DOI=10.1073/pnas.94.22.11813;
RA   Karpusas M., Nolte M., Benton C.B., Meier W., Lipscomb W.N., Goelz S.;
RT   "The crystal structure of human interferon beta at 2.2-A resolution.";
RL   Proc. Natl. Acad. Sci. U.S.A. 94:11813-11818(1997).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- PHARMACEUTICAL: Available under the names Avonex (Biogen),
CC       Betaseron (Berlex) and Rebif (Serono). Used in the treatment of
CC       multiple sclerosis (MS). Betaseron is a slightly modified form of
CC       IFNB1 with two residue substitutions.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   -!- DATABASE: NAME=Avonex; NOTE=Clinical information on Avonex;
CC       WWW="http://www.avonex.com/msavProject/avonex.portal".
CC   -!- DATABASE: NAME=Betaseron; NOTE=Clinical information on Betaseron;
CC       WWW="http://www.betaseron.com/betas/index.jsp".
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; V00534; CAA23795.1; -; Genomic_DNA.
DR   EMBL; V00535; CAA23796.1; -; Genomic_DNA.
DR   EMBL; V00546; CAA23807.1; -; mRNA.
DR   EMBL; V00547; CAA23808.1; -; mRNA.
DR   EMBL; BC069314; AAH69314.1; -; mRNA.
DR   EMBL; M28622; AAA36040.1; -; mRNA.
DR   PIR; A93721; IVHUB1.
DR   PDB; 1AU1; X-ray; A/B=22-187.
DR   Ensembl; ENSG00000171855; Homo sapiens.
DR   HGNC; HGNC:5434; IFNB1.
DR   MIM; 147640; -.
DR   GO; GO:0005576; C:extracellular region; IC.
DR   GO; GO:0005132; F:interferon-alpha/beta receptor binding; NAS.
DR   GO; GO:0030236; P:anti-inflammatory response; NAS.
DR   GO; GO:0042100; P:B cell proliferation; NAS.
DR   GO; GO:0006919; P:caspase activation; NAS.
DR   GO; GO:0007166; P:cell surface receptor linked signal transdu. . .; TAS.
DR   GO; GO:0030101; P:natural killer cell activation; NAS.
DR   GO; GO:0008285; P:negative regulation of cell proliferation; NAS.
DR   GO; GO:0046597; P:negative regulation of virion penetration; NAS.
DR   GO; GO:0045089; P:positive regulation of innate immune response; NAS.
DR   GO; GO:0045343; P:regulation of MHC class I biosynthesis; NAS.
DR   GO; GO:0009615; P:response to virus; NAS.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   3D-structure; Antiviral defense; Cytokine; Glycoprotein;
KW   Pharmaceutical; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22    187       Interferon beta.
FT   CARBOHYD   101    101       N-linked (GlcNAc. . .).
FT   DISULFID    52    162
FT   VARIANT    162    162       C -> Y (in clone PF526, loss of ability
FT                               to form the essential disulfide bond,
FT                               loss of antiviral activity).
FT                               /FTId=VAR_004016.
FT   HELIX       24     44
FT   HELIX       63     66
FT   HELIX       73     92
FT   TURN        96     97
FT   HELIX      102    125
FT   TURN       126    128
FT   HELIX      134    156
FT   TURN       157    159
FT   HELIX      161    182
FT   TURN       183    184
SQ   SEQUENCE   187 AA;  22294 MW;  0B013D4087723CEC CRC64;

  Query Match             83.7%;  Score 723;  DB 1;  Length 187;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-53;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLR 186
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RESULT 2
Q5VWC9_HUMAN
ID   Q5VWC9_HUMAN PRELIMINARY;      PRT;   187 AA.
AC   Q5VWC9;
DT   01-FEB-2005 (TrEMBLrel. 29, Created)
DT   01-FEB-2005 (TrEMBLrel. 29, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Interferon, beta 1, fibroblast.
GN   Name=IFNB1; ORFNames=RP11-113D19.1-002;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Martin S.;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=PCR rescued clones;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [3]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=PCR rescued clones;
RG   NIH MGC Project;
RL   Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AL390882; CAH70160.1; -; Genomic_DNA.
DR   EMBL; BC096151; AAH96151.1; -; mRNA.
DR   EMBL; BC096152; AAH96152.1; -; mRNA.
DR   EMBL; BC096153; AAH96153.1; -; mRNA.
DR   EMBL; BC096150; AAH96150.1; -; mRNA.
DR   Ensembl; ENSG00000171855; Homo sapiens.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine.
SQ   SEQUENCE   187 AA;  22294 MW;  0B013D4087723CEC CRC64;

  Query Match             83.7%;  Score 723;  DB 2;  Length 187;
  Best Local Similarity   100.0%;  Pred. No. 5.7e-53;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||

Db        169 VEILRNFYFINRLTGYLR 186


RESULT 3
IFNB_MACFA
ID   IFNB_MACFA     STANDARD;      PRT;   187 AA.
AC   O77812;
DT   10-MAY-2005 (Rel. 47, Created)
DT   10-MAY-2005 (Rel. 47, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta precursor (IFN-beta).
GN   Name=IFNB1; Synonyms=IFNB;
OS   Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9541;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=99156140; PubMed=10048395; DOI=10.1089/10430349950018878;
RA   Matheux F., Le Grand R., Rousseau V., De Maeyer E., Dormont D.,
RA   Lauret E.;
RT   "Macaque lymphocytes transduced by a constitutively expressed
RT   interferon beta gene display an enhanced resistance to SIVmac251
RT   infection.";
RL   Hum. Gene Ther. 10:429-440(1999).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AJ011909; CAA09862.1; -; Genomic_DNA.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Signal.
FT   SIGNAL       1     21       By similarity.
FT   CHAIN       22    187       Interferon beta.
FT   CARBOHYD    101   101       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID     52   162       By similarity.
SQ   SEQUENCE   187 AA;  22266 MW;  376AEF73332B7807 CRC64;

  Query Match             79.4%;  Score 686;  DB 1;  Length 187;
  Best Local Similarity   93.5%;  Pred. No. 7.4e-50;
  Matches  129;  Conservative    6;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||||||||||||| |||||||||||||||||:|||||| ||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQPQQFQKEDAALTIYEMLQNIYAIFRQDLSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||:||||:|||||||||||||| :||||||||||||||||||||||||||||||
Db        109 LANVYHQIDHLKTILEEKLEKEDFTRGKFVSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168
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Qy        121 VEILRNFYFINRLTGYLR 138
              |||||||:|||:||||||
Db        169 VEILRNFFFINKLTGYLR 186


RESULT 4
Q15943_HUMAN
ID   Q15943_HUMAN PRELIMINARY;      PRT;   187 AA.
AC   Q15943;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Interferon-beta precursor.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=83065590; PubMed=6183692;
RA   Piers W., Remaut E., Devos R., Cheroutre H., Contreras R.R.,
RA   Gheysen D., Degrave W.M., Stanssens P., Tavernier J., Taya Y.,
RA   Content J.;
RT   "The human fibroblast and human immune interferon genes and their
RT   expression in homologous and heterologous cells.";
RL   Philos. Trans. R. Soc. Lond., B, Biol. Sci. 299:29-38(1982).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; M25460; AAC41702.1; -; mRNA.
DR   HSSP; P01574; 1AU1.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; UNKNOWN_1.
KW   Antiviral defense; Cytokine; Signal.
FT   SIGNAL        1     21       Potential.
FT   CHAIN        22    187       interferon-beta.
SQ   SEQUENCE   187 AA;  22251 MW;  D8EE65B694862061 CRC64;

  Query Match             79.2%;  Score 684;  DB 2;  Length 187;
  Best Local Similarity   95.7%;  Pred. No. 1.1e-49;
  Matches  132;  Conservative    1;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              |||||||| ||||||||||||||||||||:|||||||||||||||||||||||||||||||
Db         49 LEYCLKDRRNFDIPEEIKQLQQFQKEDAAVTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||| |||||||||||||||||| |||||||||||||||||||| |||||||||
Db        109 LANVYHQRNHLKTVLEEKLEKEDFTRGKRMSSLHLKRYYGRILHYLKAKEDSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              |||||||| |||||||||
Db        169 VEILRNFYVINRLTGYLR 186


RESULT 5
Q68IQ4_PIG
ID   Q68IQ4_PIG  PRELIMINARY;      PRT;   186 AA.
AC   Q68IQ4;
DT   25-OCT-2004 (TrEMBLrel. 28, Created)
DT   25-OCT-2004 (TrEMBLrel. 28, Last sequence update)
DT   25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
DE   Interferon beta protein.
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
OC   Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Qian P., Peng G.Q., Li X.M., Yao Q.X., Xu Z.F., Guo D.C., Chen H.C.;
RT   "Clone and analysis of meishan porcine interferon beta gene.";
RL   Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY687281; AAT98375.1; -; mRNA.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine.
SQ   SEQUENCE   186 AA;  21950 MW;  79D70E53C3ADD6DC CRC64;

  Query Match             52.3%;  Score 451.5;  DB 2;  Length 186;
  Best Local Similarity   62.0%;  Pred. No. 4.2e-30;
  Matches   85;  Conservative   25;  Mismatches   26;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              :|||:|||||::|||| |  ||||||| | |:|||| || | |:: |||||||||::: :|
Db         50 QYCLEDRMNFEVPEEIMQPPQFQKEDAVLIIHEMLQQIFGILRRNFSSTGWNETVIKTIL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                :  |:: |:|:||| :|:|:| ||  |: ||||:||  || |||:|||  ||||:|:|
Db        110 VELDGQMDDLETILEEIMEEENFPRGD-MTILHLKKYYLSILQYLKSKEYRSCAWTVVQV 168

Qy        122 EILRNFYFINRLTGYLR 138
              |||||| |:|||| |||
Db        169 EILRNFSFLNRLTDYLR 185


RESULT 6
Q29412_PIG
ID   Q29412_PIG  PRELIMINARY;      PRT;   186 AA.
AC   Q29412;
DT   01-NOV-1996 (TrEMBLrel. 01, Created)
DT   01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT   10-MAY-2005 (TrEMBLrel. 30, Last annotation update)
DE   Interferon-beta-1 precursor (Interferon-beta).
GN   Name=interferon-beta-1; Synonyms=interferon-beta/ poIFN-beta;
OS   Sus scrofa (Pig).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
OC   Sus.
OX   NCBI_TaxID=9823;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Blood;
RA   Artursson K., Gobl A., Lindersson M., Johansson M., Alm G.;
RT   "Molecular cloning of a gene encoding porcine interferon-beta.";
RL   J. Interferon Res. 0:0-0(1992).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=92348930; PubMed=1640116;
RA   Artursson K., Gobl A., Lindersson M., Johansson M., Alm G.;
RT   "Molecular cloning of a gene encoding porcine interferon-beta.";
RL   J. Interferon Res. 12:153-160(1992).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; M86762; AAA31056.1; -; Genomic_DNA.
DR   EMBL; S41178; AAB22723.1; -; Genomic_DNA.
DR   HSSP; P01574; 1AU1.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
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DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Signal.
FT   SIGNAL       1     21       Potential.
FT   CHAIN       22    186       interferon-beta-1.
SQ   SEQUENCE   186 AA;  21878 MW;  5F16B8B3C3AE603D CRC64;

  Query Match             52.3%;  Score 451.5;  DB 2;  Length 186;
  Best Local Similarity   62.0%;  Pred. No. 4.2e-30;
  Matches   85;  Conservative   25;  Mismatches   26;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              :|||:|||||::|||| |  ||||||| | |:|||| || | |:: ||||||||::: :|
Db         50 QYCLEDRMNFEVPEEIMQPPQFQKEDAVLIIHEMLQQIFGILRRNFSSTGWNETVIKTIL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                :  |:: |:|:||| :|:|:| ||  |: ||||:||  || |||:||| ||||:|:|
Db        110 VELDGQMDDLETILEEIMEEENFPRGD-MTILHLKKYYLSILQYLKSKEYRSCAWTVVQV 168

Qy        122 EILRNFYFINRLTGYLR 138
              |||||| |:|||| |||
Db        169 EILRNFSFLNRLTDYLR 185


RESULT 7
IFNB_FELCA
ID   IFNB_FELCA     STANDARD;      PRT;   186 AA.
AC   Q9N2J0;
DT   16-OCT-2001 (Rel. 40, Created)
DT   16-OCT-2001 (Rel. 40, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta precursor (IFN-beta).
GN   Name=IFNB1; Synonyms=IFNB;
OS   Felis silvestris catus (Cat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae;
OC   Felinae; Felis.
OX   NCBI_TaxID=9685;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Murakami Y., Kubota T., Mochizuki M., Kishi M.;
RT   "Genetic structure of feline interferon beta.";
RL   Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities
CC       (By similarity).
CC   -!- SUBUNIT: Monomer (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AB021707; BAA93629.1; -; Genomic_DNA.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22    186       Interferon beta.
FT   CARBOHYD    46     46       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   101    101       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   131    131       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   136    136       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID    52    161       By similarity.
SQ   SEQUENCE   186 AA;  22188 MW;  25C359B1808AC862 CRC64;

  Query Match             51.8%;  Score 447.5;  DB 1;  Length 186;
  Best Local Similarity   62.8%;  Pred. No. 9e-30;
  Matches   86;  Conservative   23;  Mismatches   27;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              :|||||||||::|||||: |:||||:| | | || | || || : :||||||| |||||
Db         50 KYCLKDRMNFEVPEEIKKSQRFQKEEAILVINEMFQKIFNIFSRSTSSTGWNETTVENLL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
              | :: |  ||:|:||| :|:|:||      : |:||:|| ||: |||||||| ||||:|
Db        110 ATLHWQKEHLETILEEIMEEENFTWDN-TTLLNLKKYYLRIVRYLKAKEYSVCAWTVVHA 168

Qy        122 EILRNFYFINRLTGYLR 138
              ||||||:|: ||| ||:
Db        169 EILRNFFFLERLTDYLQ 185


RESULT 8
IFNB2_BOVIN
ID   IFNB2_BOVIN    STANDARD;      PRT;   186 AA.
AC   P01576;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta-2 precursor.
GN   Name=IFNB2;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC   Pecora; Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Leung D.W., Capon D.J., Goeddel D.V.;
RT   "The structure and bacterial expression of three distinct bovine
RT   interferon-beta genes.";
RL   Biotechnology (N.Y.) 2:458-464(1984).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
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CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M15478; AAA30580.1; -; Genomic_DNA.
DR   PIR; A01840; IVBOB2.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Multigene family; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22    186       Interferon beta-2.
FT   CARBOHYD   131    131       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   173    173       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID    52    161       Probable.
SQ   SEQUENCE   186 AA;  22319 MW;  D9F257C6E3250480 CRC64;

  Query Match             50.6%;  Score 437.5;  DB 1;  Length 186;
  Best Local Similarity   58.4%;  Pred. No. 6.3e-29;
  Matches   80;  Conservative   29;  Mismatches   27;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              ::||: ||:| :|||:|| |||||||| | |||||| || |  :| |||||:|||:|:||
Db         50 QHCLEARMDFQMPEEMKQAQQFQKEDAILVIYEMLQQIFNILTRDFSSTGWSETIIEDLL 109
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Qy          62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
               :| |:|||: : :| ::|:: | |   : |||::||  :: |||:|||: ||||:|||
Db         110 EELYEQMNHLEPIQKEIMQKQNSTMGD-TTVLHLRKYYFNLVQYLKSKEYNRCAWTVVRV 168

Qy         122 EILRNFYFINRLTGYLR 138
               :||||| |: |||||||
Db         169 QILRNFSFLTRLTGYLR 185


RESULT 9
IFNB_HORSE
ID   IFNB_HORSE     STANDARD;      PRT;   186 AA.
AC   P05012;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta precursor (IFN-beta).
GN   Name=IFNB1; Synonyms=IFNB;
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=87053170; PubMed=3022999;
RA   Himmler A., Hauptmann R., Adolf G.R., Swetly P.;
RT   "Molecular cloning and expression in Escherichia coli of equine type I
RT   interferons.";
RL   DNA 5:345-356(1986).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M14546; AAA30954.1; -; Genomic_DNA.
DR   PIR; G24912; IVHOBI.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22    186       Interferon beta.
FT   CARBOHYD   101    101       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   136    136       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID    52    161       By similarity.
SQ   SEQUENCE   186 AA;  21882 MW;  AE9F3ADFC006EE6C CRC64;

  Query Match             49.5%;  Score 427.5;  DB 1;  Length 186;
  Best Local Similarity   61.5%;  Pred. No. 4.4e-28;
  Matches   83;  Conservative   23;  Mismatches   28;  Indels    1;  Gaps    1;

Qy           4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
               | :| ||| :||||:| |||||||||| ||||||: : |||:: :|||||||||:|||
Db          52 CPEDTMNFQVPEEIEQAQQFQKEDAALVIYEMLQHTWRIFRRNFASTGWNETIVKNLLVE 111

Qy          64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
               |: |:: |:| ||| :|:|  | |   : | ||:|||||  |||||:|||||||:|: |:
Db         112 VHLQMDRLETNLEEIMEEESSTWGN-TTILRLKKYYGRISQYLKAKKYSHCAWTVVQAEM 170

Qy         124 LRNFYFINRLTGYLR 138
               |||  |:| || ||:
Db         171 LRNLAFLNGLTDYLQ 185


RESULT 10
IFNB3_BOVIN
ID   IFNB3_BOVIN    STANDARD;      PRT;   186 AA.
AC   P01577;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta-3 precursor.
GN   Name=IFNB3;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC   Pecora; Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Leung D.W., Capon D.J., Goeddel D.V.;
RT   "The structure and bacterial expression of three distinct bovine
RT   interferon-beta genes.";
RL   Biotechnology (N.Y.) 2:458-464(1984).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M15479; AAA30581.1; -; Genomic_DNA.
DR   PIR; A01841; IVBOB3.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Multigene family; Signal.
FT   SIGNAL       1     21
FT   CHAIN       22    186       Interferon beta-3.
FT   CARBOHYD   131    131       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD   173    173       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID    52    161       Probable.
SQ   SEQUENCE   186 AA;  22060 MW;  1D10111EBEE1A65D CRC64;

  Query Match             46.1%;  Score 398.5;  DB 1;  Length 186;
  Best Local Similarity   53.3%;  Pred. No. 1.2e-25;
  Matches   73;  Conservative   32;  Mismatches   31;  Indels    1;  Gaps    1;

Qy           2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
               ::||: :|:| :|||: | |||:|||| | |||||| || |  :| |||||:|||:|:||
Db          50 QHCLEAKMDFQVPEEMNQAQQFRKEDAILVIYEMLQQIFNILTRDFSSTGWSETIIEDLL 109

Qy          62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
               :| |:| |: : :| :::::|| |   : ||||:||  :: ||::|||: ||||:|||
Db         110 VELYGQMNRLQPIQKEIMQEQNFTMGD-TTVLHLKKYYFNLVQYLESKEYNRCAWTVVRV 168

Qy         122 EILRNFYFINRLTGYLR 138
               :|| || |: |||  ||
Db         169 QILTNFSFLMRLTASLR 185


RESULT 11
IFNB1_BOVIN
ID   IFNB1_BOVIN    STANDARD;      PRT;   186 AA.
AC   P01578;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
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DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta-1 precursor.
GN   Name=IFNB1;
OS   Bos taurus (Bovine).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
OC   Pecora; Bovidae; Bovinae; Bos.
OX   NCBI_TaxID=9913;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Leung D.W., Capon D.J., Goeddel D.V.;
RT   "The structure and bacterial expression of three distinct bovine
RT   interferon-beta genes.";
RL   Biotechnology (N.Y.) 2:458-464(1984).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
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CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; M15477; AAA30579.1; -; Genomic_DNA.
DR   PIR; A01842; IVBOB1.
DR   HSSP; P01574; 1AU1.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Multigene family; Signal.
FT   SIGNAL        1     21
FT   CHAIN        22    186       Interferon beta-1.
FT   CARBOHYD    131    131       N-linked (GlcNAc. . .) (Potential).
FT   CARBOHYD    173    173       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID     52    161       Probable.
SQ   SEQUENCE   186 AA;  22195 MW;  F9060C07EA415B9C CRC64;

  Query Match             43.8%;  Score 378.5;  DB 1;  Length 186;
  Best Local Similarity   51.1%;  Pred. No. 5.9e-24;
  Matches   70;  Conservative   33;  Mismatches   33;  Indels    1;  Gaps    1;

Qy          2 EYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLL 61
              ::||: ||:| :|||:|| |||||||| | :||:||:|| |  :| |||||:|||:|:||
Db         50 QHCLEARMDFQMPEEMKQEQQFQKEDAILVMYEVLQHIFGILTRDFSSTGWSETIIEDLL 109

Qy         62 ANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRV 121
                :| |:| |: : :| ::|:: |    :   || :||  :: ||::|||  ||||:|:|
Db        110 KELYWQMNRLQPIQKEIMQKQNSTTEDTIVP-HLGKYYFNLMQYLESKEYDRCAWTVVQV 168

Qy        122 EILRNFYFINRLTGYLR 138
             :|| |  |: |||||:|
Db        169 QILTNVSFLMRLTGYVR 185


RESULT 12
IFNB_MOUSE
ID   IFNB_MOUSE     STANDARD;      PRT;   182 AA.
AC   P01575;
DT   21-JUL-1986 (Rel. 01, Created)
DT   21-JUL-1986 (Rel. 01, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon beta precursor (IFN-beta).
GN   Name=Ifnb1; Synonyms=Ifb, Ifnb;
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi;
OC   Muroidea; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=83265757; PubMed=6688252;
RA   Higashi Y., Sokawa Y., Watanabe Y., Kawade Y., Ohno S., Takaoka C.,
RA   Taniguchi T.;
RT   "Structure and expression of a cloned cDNA for mouse interferon-
RT   beta.";
RL   J. Biol. Chem. 258:9522-9529(1983).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=89263735; PubMed=2726460;
RA   Kuga T., Fujita T., Taniguchi T.;
RT   "Nucleotide sequence of the mouse interferon-beta gene.";
RL   Nucleic Acids Res. 17:3291-3291(1989).
RN   [3]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=89125582; PubMed=3221389;
RA   Vodjdani G., Coulombel C., Doly J.;
RT   "Structure and characterization of a murine chromosomal fragment
RT   containing the interferon beta gene.";
RL   J. Mol. Biol. 204:221-231(1988).
RN   [4]
RP   STRUCTURE OF CARBOHYDRATES.
RX   MEDLINE=88196115; PubMed=3360010;
RA   Civas A., Fournet B., Coulombel C., le Roscouet D., Honvault A.,
RA   Petek F., Montreuil J., Doly J.;
RT   "Purification and carbohydrate structure of natural murine interferon-
RT   beta.";
RL   Eur. J. Biochem. 173:311-316(1988).
RN   [5]
RP   X-RAY CRYSTALLOGRAPHY (2.75 ANGSTROMS).
RA   Senda T., Matsuda S., Kurihara H., Nakamura K.T., Kawano G.,
RA   Shimizu H., Mizuno H., Mitsui Y.;
RT   "Three-dimensional structure of recombinant murine interferon-beta.";
RL   Proc. Jpn. Acad., B, Phys. Biol. Sci. 66:77-80(1990).
RN   [6]
RP   X-RAY CRYSTALLOGRAPHY (2.6 ANGSTROMS).
RX   MEDLINE=92371425; PubMed=1505514;
RA   Senda T., Shimazu T., Matsuda S., Kawano G., Shimizu H.,
RA   Nakamura K.T., Mitsui Y.;
RT   "Three-dimensional crystal structure of recombinant murine interferon-
RT   beta.";
RL   EMBO J. 11:3193-3201(1992).
RN   [7]
RP   X-RAY CRYSTALLOGRAPHY (2.15 ANGSTROMS).
RX   MEDLINE=96028219; PubMed=7473712;
RA   Senda T., Saitoh S.-I., Mitsui Y.;
RT   "Refined crystal structure of recombinant murine interferon-beta at
RT   2.15-A resolution.";
RL   J. Mol. Biol. 253:187-207(1995).
CC   -!- FUNCTION: Has antiviral, antibacterial and anticancer activities.
CC   -!- SUBUNIT: Monomer.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- PTM: This beta interferon does not have a disulfide bond.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
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CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; K00020; AAA37891.1; -; mRNA.
DR   EMBL; X14455; CAA32625.1; -; Genomic_DNA.
DR   EMBL; X14029; CAA32190.1; -; Genomic_DNA.
DR   PIR; S02020; IVMSB.
DR   PDB; 1IFA; X-ray; @=24-181.
DR   PDB; 1WU3; X-ray; I=22-182.
DR   PDB; 2HIF; Model; @=24-182.
DR   Ensembl; ENSMUSG00000048806; Mus musculus.
DR   MGI; MGI:107657; Ifnb1.
DR   GO; GO:0005615; C:extracellular space; TAS.
DR   GO; GO:0005125; F:cytokine activity; IDA.
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DR   GO; GO:0042830; P:defense response to pathogenic bacteria; IDA.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   3D-structure; Antiviral defense; Cytokine; Glycoprotein; Signal.
FT   SIGNAL        1     21
FT   CHAIN        22    182       Interferon beta.
FT   CARBOHYD     50     50       N-linked (GlcNAc. . .).
FT   CARBOHYD     90     90       N-linked (GlcNAc. . .).
FT   CARBOHYD     97     97       N-linked (GlcNAc. . .).
FT   HELIX        27     29
FT   HELIX        30     42
FT   TURN         43     44
FT   HELIX        46     50
FT   TURN         62     63
FT   TURN         69     71
FT   HELIX        72     89
FT   HELIX        98    111
FT   TURN        112    112
FT   HELIX       113    116
FT   TURN        117    119
FT   TURN        124    125
FT   TURN        127    128
FT   HELIX       130    132
FT   TURN        133    134
FT   HELIX       135    151
FT   TURN        152    154
FT   HELIX       156    176
FT   TURN        177    182
SQ   SEQUENCE   182 AA;  22127 MW;  8C4C32947FD1B917 CRC64;

  Query Match             34.1%;  Score 294.5;  DB 1;  Length 182;
  Best Local Similarity   50.4%;  Pred. No. 6.8e-17;
  Matches   64;  Conservative   17;  Mismatches   43;  Indels    3;  Gaps    2;

Qy          8 RMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQ 67
              | :| || |:   :: ||   |  | |||||:| :|| : ||||||||||  ||  :: |
Db         54 RADFKIPMEM--TEKMQKSYTAFAIQEMLQNVFLVFRNNFSSTGWNETIVVRLLDELHQQ 111

Qy         68 INHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNF 127
              ||||||||| ::|  |     ::|||| || |:  |||  :|:  || :|| || |||
Db        112 TVFLKTVLEEK-QEERLTWEMSSTALHLKSYYWRVQRYLKLMKYNSYAWMVVRAEIFRNF 170

Qy        128 YFINRLT 134
                | |||
Db        171 LIIRRLT 177


RESULT 13
Q7YRX8_MACEU
ID   Q7YRX8_MACEU PRELIMINARY;      PRT;   183 AA.
AC   Q7YRX8;
DT   01-OCT-2003 (TrEMBLrel. 25, Created)
DT   01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Interferon alpha 1.
GN   Name=IFN;
OS   Macropus eugenii (Tammar wallaby).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Metatheria; Diprotodontia; Macropodidae; Macropus.
OX   NCBI_TaxID=9315;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15183033; DOI=10.1016/j.dci.2004.02.002;
RA   Harrison G.A., McNicol K.A., Deane E.M.;
RT   "Interferon alpha/beta genes from a marsupial, Macropus eugenii.";
RL   Dev. Comp. Immunol. 28:927-940(2004).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY165859; AAO37656.1; -; Genomic_DNA.
DR   HSSP; P56828; 1B5L.
DR   GO; GO:0005615; C:extracellular space; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
KW   Antiviral defense; Cytokine.
SQ   SEQUENCE   183 AA;  21040 MW;  05BB282D06B9F00B CRC64;

  Query Match             33.4%;  Score 289;  DB 2;  Length 183;
  Best Local Similarity   42.7%;  Pred. No. 2e-16;
  Matches   56;  Conservative   24;  Mismatches   51;  Indels    0;  Gaps    0;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| ||: |:|  :  | |:||| : ::|||| || :| ||::   ||:|    ||
Db         48 CLKDRTNFNFPKEAMEGSQLQREDATVIVHEMLQQIFTLFNQDTAPAAWNQTQFMQLLIG 107

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
                :  |:  |:    : :|:|:: : |     | ||  :  |  ||: |||||||| : ||||
Db        108 LDQQMEQLERCRAQNVEREEPSLGSEHPKLALKNCFQGISQYLQGKEYSHCAWEVTRVEI 167

Qy        124 LRNFYPINRLT 134
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Db        168 RRCFLFIGKLS 178


RESULT 14
Q6XZW6_9MAMM
ID   Q6XZW6_9MAMM PRELIMINARY;      PRT;   187 AA.
AC   Q6XZW6;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Interferon-beta.
OS   Tachyglossus aculeatus (Australian echidna).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Monotremata; Tachyglossidae; Tachyglossus.
OX   NCBI_TaxID=9261;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15061761; DOI=10.1046/j.0818-9641.2004.01230.x;
RA   Harrison G.A., McNicol K.A., Deane E.M.;
RT   "Type I interferon genes from the egg-laying mammal, Tachyglossus
RT   aculeatus (short-beaked echidna).";
RL   Immunol. Cell Biol. 82:112-118(2004).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY194920; AAP34279.1; -; Genomic_DNA.
DR   HSSP; P01574; 1AU1.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   InterPro; IPR000471; Interferon_abd.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   SMART; SM00076; IFabd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; UNKNOWN_1.
KW   Antiviral defense; Cytokine.
SQ   SEQUENCE   187 AA;  22496 MW;  00A7FAC603EA58E5 CRC64;

  Query Match             33.4%;  Score 288.5;  DB 2;  Length 187;
  Best Local Similarity   42.6%;  Pred. No. 2.2e-16;
  Matches   58;  Conservative   31;  Mismatches   46;  Indels    1;  Gaps    1;

Qy          3 YCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLA 62
              :|||: ||| :| |:     |||:|:|    |:::|| || || :: | |||:| |||  |
Db         52 HCLKESMNFKLPAEMLHPHQFQQENATEAIHDLLQQIFNIFSRNHSQTGWDEAIVEKFLH 111

Qy         63 NVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVE 122
                |: ::  |:  |||::  |: |  : : |||:| |: |:: ||| : || ||| ::|:|
Db        112 GVHQEMVWLELFLEEEMGWENSTLRRDI-SLHIKSYFKRMMDYLKGRNYSSCAWEVIRME 170
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```
Qy        123 ILRNFYFINRLTGYLR 138
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Db        171 TKRSCLVIYRLTRKLK 186


RESULT 15
IFNW2_HORSE
ID   IFNW2_HORSE    STANDARD;      PRT;   195 AA.
AC   P05002;
DT   13-AUG-1987 (Rel. 05, Created)
DT   13-AUG-1987 (Rel. 05, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Interferon omega-2 precursor (Interferon alpha-II-2).
OS   Equus caballus (Horse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
OX   NCBI_TaxID=9796;
RN   [1]
RP   NUCLEOTIDE SEQUENCE OF 167-195.
RX   MEDLINE=87053170; PubMed=3022999;
RA   Himmler A., Hauptmann R., Adolf G.R., Swetly P.;
RT   "Molecular cloning and expression in Escherichia coli of equine type I
RT   interferons.";
RL   DNA 5:345-356(1986).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the alpha/beta interferon family.
CC   ----------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ----------------------------------------------------------------------
DR   EMBL; M14545; AAA30949.1; -; Genomic_DNA.
DR   EMBL; A16557; CAA01293.1; -; Unassigned_DNA.
DR   PIR; F24912; IVHO22.
DR   HSSP; P56828; 1B5L.
DR   InterPro; IPR000471; Interferon_abd.
DR   PANTHER; PTHR11691; Interferon_abd; 1.
DR   Pfam; PF00143; Interferon; 1.
DR   PRINTS; PR00266; INTERFERONAB.
DR   ProDom; PD000550; Interferon_abd; 1.
DR   PROSITE; PS00252; INTERFERON_A_B_D; 1.
KW   Antiviral defense; Cytokine; Glycoprotein; Multigene family; Signal.
FT   SIGNAL        1     23
FT   CHAIN        24    195       Interferon omega-2.
FT   CARBOHYD    101    101       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID     24    122       By similarity.
FT   DISULFID     52    162       By similarity.
SQ   SEQUENCE   195 AA;  22132 MW;  949DA221AB3C17DF CRC64;

  Query Match             33.2%;  Score 286.5;  DB 1;  Length 195;
  Best Local Similarity   41.4%;  Pred. No. 3.5e-16;
  Matches   58;  Conservative   29;  Mismatches   50;  Indels    3;  Gaps    1;

Qy          4 CLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLAN 63
              ||||| :|  |:::  :|| :  ||  ::|||| ||::|  : ||  || |::: |
Db         52 CLKDRKDFRFPQDMADGRQFPEAQAASVLHEMLQQIFSLFHTERSSAAWNTTLLDELCTG 111

Qy         64 VYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEI 123
              :  |:  | | ||::: :|:   | :  :| :|||:  |  ||| |:|| ||| |||:||
Db        112 LLRQLEDLDTCLEQEMGEEESALGTVRPTLAVKRYFRGIHLYLKEKKYSDCAWEIVRMEI 171

Qy        124 LRNFYFINRLTGYLR---GD 140
              :|:|     | | ||   ||
Db        172 MRSFSSSANLQGRLRMKDGD 191


Search completed: May  9, 2006, 04:22:12
Job time : 230 secs
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OM protein - protein search, using sw model

Run on: May 9, 2006, 04:22:27 ; Search time 46 Seconds
(without alignments)
294.757 Million cell updates/sec

Title: US-10-677-093-35
Perfect score: 864
Sequence: 1 LEYCLKDRMNFDIPEEIKQL.....FLQRSSNFQCQKLLWQLNGR 164

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
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2: /cgn2_6/ptodata/1/iaa/6_COMB.pep:*
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4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	730	84.5	399	2	US-09-832-659A-2	Sequence 2, Appli
2	723	83.7	166	2	US-09-397-992A-7	Sequence 7, Appli
3	723	83.7	166	2	US-09-569-722A-1	Sequence 1, Appli
4	723	83.7	166	2	US-09-648-569A-2	Sequence 2, Appli
5	723	83.7	166	2	US-09-971-843-7	Sequence 7, Appli
6	723	83.7	166	2	US-09-403-532E-1	Sequence 1, Appli
7	723	83.7	166	2	US-09-462-941-5	Sequence 5, Appli
8	723	83.7	166	2	US-10-035-397-1	Sequence 1, Appli
9	723	83.7	166	2	US-10-035-397-2	Sequence 2, Appli
10	723	83.7	166	6	5514567-4	Patent No. 5514567
11	723	83.7	183	2	US-09-832-659A-4	Sequence 4, Appli
12	723	83.7	183	2	US-09-832-658A-2	Sequence 2, Appli
13	723	83.7	187	2	US-09-206-903A-9	Sequence 9, Appli
14	723	83.7	187	2	US-08-406-030A-30	Sequence 30, Appl
15	723	83.7	187	2	US-09-202-122-9	Sequence 9, Appli
16	723	83.7	187	2	US-09-206-935-7	Sequence 7, Appli
17	723	83.7	187	2	US-09-206-936-7	Sequence 7, Appli
18	723	83.7	187	2	US-09-487-792-4	Sequence 4, Appli
19	723	83.7	187	2	US-09-908-594-4	Sequence 4, Appli
20	723	83.7	187	2	US-09-919-622A-9	Sequence 9, Appli
21	723	83.7	187	2	US-09-949-016-9681	Sequence 9681, Ap
22	723	83.7	187	2	US-09-788-552-1	Sequence 1, Appli
23	723	83.7	187	6	5514567-1	Patent No. 5514567
24	723	83.7	415	2	US-09-215-212-14	Sequence 14, Appl
25	721	83.4	166	1	US-08-477-310A-1	Sequence 1, Appli
26	718	83.1	166	1	US-08-213-448-1	Sequence 1, Appli
27	718	83.1	166	2	US-08-912-768-1	Sequence 1, Appli
28	718	83.1	166	2	US-09-487-792-21	Sequence 21, Appl
29	718	83.1	166	2	US-09-908-594-21	Sequence 21, Appl
30	718	83.1	166	2	US-09-569-722A-4	Sequence 4, Appli
31	718	83.1	166	2	US-09-569-722A-18	Sequence 18, Appl
32	718	83.1	166	4	PCT-US95-03206-1	Sequence 1, Appli
33	718	83.1	187	2	US-08-912-768-3	Sequence 3, Appli
34	716	82.9	166	2	US-09-788-552-2	Sequence 2, Appli
35	715	82.8	166	2	US-09-569-722A-16	Sequence 16, Appl
36	715	82.8	187	1	US-08-026-758-22	Sequence 22, Appl
37	714	82.6	166	2	US-09-331-260-2	Sequence 2, Appli
38	714	82.6	418	2	US-09-832-659A-42	Sequence 42, Appl
39	714	82.6	423	2	US-09-832-659A-44	Sequence 44, Appl
40	713	82.5	166	2	US-09-569-722A-5	Sequence 5, Appli
41	710	82.2	166	2	US-09-569-722A-14	Sequence 14, Appl
42	709	82.1	166	2	US-09-569-722A-12	Sequence 12, Appl
43	709	82.1	166	2	US-09-569-722A-17	Sequence 17, Appl
44	708	81.9	166	2	US-09-832-659A-45	Sequence 45, Appl
45	708	81.9	166	2	US-09-832-659A-46	Sequence 46, Appl

ALIGNMENTS

RESULT 1
US-09-832-659A-2
; Sequence 2, Application US/09832659A
; Patent No. 6800735
; GENERAL INFORMATION:
; APPLICANT: WHITTY, ADRIAN
; APPLICANT: RUNKEL, LAURA
; APPLICANT: BRICKELMAIER, MARGOT
; APPLICANT: HOCHMAN, PAULA
; TITLE OF INVENTION: INTERFERON-BETA FUSION PROTEINS AND USES
; FILE REFERENCE: BII-007.01
; CURRENT APPLICATION NUMBER: US/09/832,659A
; CURRENT FILING DATE: 2001-04-11
; PRIOR APPLICATION NUMBER: PCT/US99/24200
; PRIOR FILING DATE: 1999-10-15
; PRIOR APPLICATION NUMBER: 60/120,237
; PRIOR FILING DATE: 1999-02-16
; PRIOR APPLICATION NUMBER: 60/104,491
; PRIOR FILING DATE: 1998-10-16
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 399
; TYPE: PRT
; ORGANISM: Mus sp.
US-09-832-659A-2

Query Match 84.5%; Score 730; DB 2; Length 399;
Best Local Similarity 98.6%; Pred. No. 1.3e-69;
Matches 139; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLRGDN 141
              |||||||||||||||||| |:
Db        148 VEILRNFYFINRLTGYLRNDD 168
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RESULT 2
US-09-397-992A-7
; Sequence 7, Application US/09397992A
; Patent No. 6329175
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell

```
;  APPLICANT:  Grant, Francis J.
;  APPLICANT:  Rixon, Mark W.
;  APPLICANT:  Kindsvogel, Wayne
;  TITLE OF INVENTION: Interferon-epsilon
;  FILE REFERENCE: 98-46
;  CURRENT APPLICATION NUMBER: US/09/397,992A
;  CURRENT FILING DATE:  1999-09-16
;  PRIOR APPLICATION NUMBER: 60/101,012
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: 60/118,578
;  PRIOR FILING DATE: 1999-02-05
;  PRIOR APPLICATION NUMBER: 60/142,766
;  PRIOR FILING DATE: 1999-07-08
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 7
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-397-992A-7

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
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Db        148 VEILRNFYFINRLTGYLR 165


RESULT 3
US-09-569-722A-1
; Sequence 1, Application US/09569722A
; Patent No. 6514729
; GENERAL INFORMATION:
;  APPLICANT: Bentzien, Joerg M
;  TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND PROTEINS WITH INTERFERON-BETA ACTIVITY
;  FILE REFERENCE: A-68059-1/RFT/RMS/RMK
;  CURRENT APPLICATION NUMBER: US/09/569,722A
;  CURRENT FILING DATE:  2000-05-11
;  PRIOR APPLICATION NUMBER: US 60/133,785
;  PRIOR FILING DATE: 1999-05-12
;  NUMBER OF SEQ ID NOS: 24
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-569-722A-1

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
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              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 4
US-09-648-569A-2
; Sequence 2, Application US/09648569A
; Patent No. 6531122
; GENERAL INFORMATION:
;  APPLICANT: Pedersen, A.H., et al.
;  APPLICANT:  Maxygen ApS
;  TITLE OF INVENTION: Interferon-Beta Variants and Conjugates
;  FILE REFERENCE: 0202us810
;  CURRENT APPLICATION NUMBER: US/09/648,569A
;  CURRENT FILING DATE:  2000-08-25
;  NUMBER OF SEQ ID NOS: 45
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-648-569A-2

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 5
US-09-971-843-7
; Sequence 7, Application US/09971843
; Patent No. 6544505
; GENERAL INFORMATION:
;  APPLICANT: Conklin, Darrell C.
;  APPLICANT:  Grant, Francis J.
;  APPLICANT:  Rixon, Mark W.
;  APPLICANT:  Kindsvogel, Wayne
;  TITLE OF INVENTION: Interferon-epsilon
;  FILE REFERENCE: 98-46D1
;  CURRENT APPLICATION NUMBER: US/09/971,843
;  CURRENT FILING DATE:  2001-10-04
;  PRIOR APPLICATION NUMBER: 60/101,012
;  PRIOR FILING DATE: 1998-09-18
;  PRIOR APPLICATION NUMBER: 60/118,578
;  PRIOR FILING DATE: 1999-02-05
;  PRIOR APPLICATION NUMBER: 60/142,766
;  PRIOR FILING DATE: 1999-07-08
;  PRIOR APPLICATION NUMBER: 09/397,992
;  PRIOR FILING DATE: 1999-09-16
;  NUMBER OF SEQ ID NOS: 33
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 7
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-971-843-7

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 6
US-09-403-532E-1
; Sequence 1, Application US/09403532E
; Patent No. 6572853
; GENERAL INFORMATION:
;  APPLICANT: Fraunhofer-Gesellschaft zur Foerderung Angewan
;  APPLICANT:  Schneider-Fresenius, Christian
;  APPLICANT:  Otto, Bernd
;  APPLICANT:  Waschutza, Gero
;  TITLE OF INVENTION: HUMAN RECOMBINANT BETA-INTERFERON WITH IMPROVED SOLUBILITY
;  FILE REFERENCE: 127-65050
;  CURRENT APPLICATION NUMBER: US/09/403,532E
;  CURRENT FILING DATE:  2000-02-22
;  PRIOR APPLICATION NUMBER: PCT/EP/98/02238
;  PRIOR FILING DATE: 1998-04-16
;  PRIOR APPLICATION NUMBER: DE 19717864.2
;  PRIOR FILING DATE: 1997-04-23
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-403-532E-1

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 7
US-09-462-941-5
; Sequence 5, Application US/09462941
; Patent No. 6608183
; GENERAL INFORMATION:
;  APPLICANT: Cox III, George N
;  APPLICANT:  Bolder Biotechnology, Inc.
;  TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
;  FILE REFERENCE: 4152-1-PUS
;  CURRENT APPLICATION NUMBER: US/09/462,941
;  CURRENT FILING DATE:  2000-01-14
;  PRIOR APPLICATION NUMBER: 60/052,516
;  PRIOR FILING DATE: 1997-07-14
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-462-941-5

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 8
US-10-035-397-1
; Sequence 1, Application US/10035397
; Patent No. 6887462
; GENERAL INFORMATION:
;  APPLICANT: Shirley, Bret A.
;  APPLICANT:  Babuka, Susan
;  APPLICANT:  Chen, Bao-Lu
;  APPLICANT:  Hora, Maninder
;  APPLICANT:  Choe, Minna
;  APPLICANT:  Tellers, Melanie
;  TITLE OF INVENTION: HSA-Free Formulations of Interferon-Beta
;  FILE REFERENCE: PP17201.003
;  CURRENT APPLICATION NUMBER: US/10/035,397
;  CURRENT FILING DATE:  2001-10-25
;  PRIOR APPLICATION NUMBER: 60/330,404
;  PRIOR FILING DATE: 2001-10-18
;  PRIOR APPLICATION NUMBER: 60/282,614
;  PRIOR FILING DATE: 2001-04-09
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-035-397-1

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 9
US-10-035-397-2
; Sequence 2, Application US/10035397
; Patent No. 6887462
; GENERAL INFORMATION:
;  APPLICANT: Shirley, Bret A.
;  APPLICANT:  Babuka, Susan
;  APPLICANT:  Chen, Bao-Lu
;  APPLICANT:  Hora, Maninder
;  APPLICANT:  Choe, Minna
;  APPLICANT:  Tellers, Melanie
```

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;  TITLE OF INVENTION: HSA-Free Formulations of Interferon-Beta
;  FILE REFERENCE: PP17201.003
;  CURRENT APPLICATION NUMBER: US/10/035,397
;  CURRENT FILING DATE:  2001-10-25
;  PRIOR APPLICATION NUMBER: 60/330,404
;  PRIOR FILING DATE: 2001-10-18
;  PRIOR APPLICATION NUMBER: 60/282,614
;  PRIOR FILING DATE: 2001-04-09
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Human interferon-beta mutein with cysteine to
;   OTHER INFORMATION: serine substitution at position 17
US-10-035-397-2

  Query Match             83.7%;  Score 723;  DB 2;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 10
5514567-4
;Patent No. 5514567
;     APPLICANT: SUGANO, HARUO;MURAMATSU, MASAMI;TANIGUCHI,
;TADATSUGU
;     TITLE OF INVENTION: DNA AND RECOMBINANT PLASMID
;     NUMBER OF SEQUENCES: 5
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/400,179
;       FILING DATE: 06-MAR-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER: 389,922
;       FILING DATE: 18-JUN-1982
;       APPLICATION NUMBER: 201,359
;       FILING DATE: 27-OCT-1980
;SEQ ID NO:4:
;       LENGTH: 166
5514567-4

  Query Match             83.7%;  Score 723;  DB 6;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.4e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 11
US-09-832-659A-4
; Sequence 4, Application US/09832659A
; Patent No. 6800735
; GENERAL INFORMATION:
;  APPLICANT: WHITTY, ADRIAN
;  APPLICANT:  RUNKEL, LAURA
;  APPLICANT:  BRICKELMAIER, MARGOT
;  APPLICANT:  HOCHMAN, PAULA
;  TITLE OF INVENTION: INTERFERON-BETA FUSION PROTEINS AND USES
;  FILE REFERENCE: BII-007.01
;  CURRENT APPLICATION NUMBER: US/09/832,659A
;  CURRENT FILING DATE:  2001-04-11
;  PRIOR APPLICATION NUMBER: PCT/US99/24200
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/120,237
;  PRIOR FILING DATE: 1999-02-16
;  PRIOR APPLICATION NUMBER: 60/104,491
;  PRIOR FILING DATE: 1998-10-16
;  NUMBER OF SEQ ID NOS: 61
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
;   LENGTH: 183
;   TYPE: PRT
;   ORGANISM: Mus sp.
US-09-832-659A-4

  Query Match             83.7%;  Score 723;  DB 2;  Length 183;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         45 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 104

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        105 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 164

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        165 VEILRNFYFINRLTGYLR 182


RESULT 12
US-09-832-658A-2
; Sequence 2, Application US/09832658A
; Patent No. 6962978
; GENERAL INFORMATION:
;  APPLICANT: Pepinsky, Blake
;  APPLICANT:  Runkel, Laura
;  APPLICANT:  Brickelmaier, Margot
;  APPLICANT:  Whitty, Adrian
;  APPLICANT:  Hochman, Paula
;  TITLE OF INVENTION: Polymer Conjugates of Interferon Beta-1a
;  TITLE OF INVENTION:  and Uses
;  FILE REFERENCE: 00689-514/A065
;  CURRENT APPLICATION NUMBER: US/09/832,658A
;  CURRENT FILING DATE:  2001-04-11
;  PRIOR APPLICATION NUMBER: PCT/US99/24201
;  PRIOR FILING DATE: 1999-10-15
;  PRIOR APPLICATION NUMBER: 60/104,572
;  PRIOR FILING DATE: 1998-10-16
;  PRIOR APPLICATION NUMBER: 60/120,161
;  PRIOR FILING DATE: 1999-02-16
;  NUMBER OF SEQ ID NOS: 40
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 2
;   LENGTH: 183
;   TYPE: PRT
;   ORGANISM: murine
US-09-832-658A-2

  Query Match             83.7%;  Score 723;  DB 2;  Length 183;
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  Best Local Similarity   100.0%;  Pred. No. 2.7e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         45 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 104

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        105 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 164

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        165 VEILRNFYFINRLTGYLR 182


RESULT 13
US-09-206-903A-9
; Sequence 9, Application US/09206903A
; Patent No. 6200780
; GENERAL INFORMATION:
;  APPLICANT:  Chen, Jian
;  APPLICANT:  Godowski, Paul J.
;  APPLICANT:  Wood, William I.
;  APPLICANT:  Zhang, Dong-Xiao
;  TITLE OF INVENTION:  NOVEL TYPE I INTERFERONS
;  FILE REFERENCE:  P1224-2R1
;  CURRENT APPLICATION NUMBER: US/09/206,903A
;  CURRENT FILING DATE:  1998-12-07
;  PRIOR APPLICATION NUMBER:  US 60/106,463
;  PRIOR FILING DATE:  1998-10-30
;  NUMBER OF SEQ ID NOS:  12
; SEQ ID NO 9
;   LENGTH: 187
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-206-903A-9

  Query Match             83.7%;  Score 723;  DB 2;  Length 187;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLR 186


RESULT 14
US-08-406-030A-30
; Sequence 30, Application US/08406030A
; Patent No. 6270989
;  GENERAL INFORMATION:
;    APPLICANT:  Treco, Douglas A.
;    APPLICANT:  Heartlein, Michael W.
;    APPLICANT:  Hauge, Brian M.
;    APPLICANT:  Selden, Richard F
;    TITLE OF INVENTION:  Protein Production and Delivery
;    NUMBER OF SEQUENCES:  30
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Hamilton, Brook, Smith & Reynolds, P.c.
;      STREET:  Two Militia Drive
;      CITY:  Lexington
;      STATE:  Massachusetts
;      COUNTRY:  USA
;      ZIP:  02173
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/406,030A
;      FILING DATE:  17-MAR-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/243,391
;      FILING DATE:  13-MAY-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/985,586
;      FILING DATE:  03-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/911,533
;      FILING DATE:  10-JUL-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,840
;      FILING DATE:  05-NOV-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/789,188
;      FILING DATE:  05-NOV-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US93/11704
;      FILING DATE:  02-DEC-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US92/09627
;      FILING DATE:  05-NOV-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Granahan, Patricia
;      REGISTRATION NUMBER:  32,227
;      REFERENCE/DOCKET NUMBER:  TKT95-01
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (617) 861-6240
;      TELEFAX:  (617) 861-9540
;  INFORMATION FOR SEQ ID NO:  30:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  187 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-406-030A-30

  Query Match             83.7%;  Score 723;  DB 2;  Length 187;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-69;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLR 186


RESULT 15
US-09-202-122-9
; Sequence 9, Application US/09202122
; Patent No. 6299869
; GENERAL INFORMATION:
;  APPLICANT:  Chen, Jian
;  APPLICANT:  Godowski, Paul
;  APPLICANT:  Wood, William I.
;  APPLICANT:  Zhang, Dong-Xiao
;  TITLE OF INVENTION:  HUMAN INTERFERON-EPSILON: A TYPE I INTERFERON
;  FILE REFERENCE:  P1224R2 (filed)
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; CURRENT APPLICATION NUMBER: US/09/202,122
; CURRENT FILING DATE: 1999-03-04
; PRIOR APPLICATION NUMBER: PCT/US98/25672
; PRIOR FILING DATE: 1998-12-03
; NUMBER OF SEQ ID NOS: 12
; SEQ ID NO 9
; LENGTH: 187
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-202-122-9

Query Match 83.7%; Score 723; DB 2; Length 187;
Best Local Similarity 100.0%; Pred. No. 2.7e-69;
Matches 138; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        169 VEILRNFYFINRLTGYLR 186
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Search completed: May 9, 2006, 04:23:47
Job time : 46 secs

GenCore version 5.1.8
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OM protein - protein search, using sw model

Run on: May 9, 2006, 04:33:37 ; Search time 164 Seconds
(without alignments)
417.829 Million cell updates/sec

Title: US-10-677-093-35
Perfect score: 864
Sequence: 1 LEYCLKDRMNFDIPEEIKQL.....FLQRSSNFQCQKLLWQLNGR 164

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_Main:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	864	100.0	164	4	US-10-677-093-35	Sequence 35, Appl
2	850	98.4	164	4	US-10-677-093-40	Sequence 40, Appl
3	850	98.4	164	4	US-10-677-093-45	Sequence 45, Appl
4	757	87.6	164	4	US-10-677-093-36	Sequence 36, Appl
5	743	86.0	164	4	US-10-677-093-41	Sequence 41, Appl
6	743	86.0	164	4	US-10-677-093-46	Sequence 46, Appl
7	730	84.5	399	3	US-09-832-659-2	Sequence 2, Appli
8	730	84.5	399	5	US-10-868-673-2	Sequence 2, Appli
9	729	84.4	771	5	US-10-775-180-138	Sequence 138, App
10	729	84.4	771	5	US-10-775-180-555	Sequence 555, App
11	729	84.4	771	5	US-10-775-204-428	Sequence 428, App
12	729	84.4	771	5	US-10-775-204-1519	Sequence 1519, Ap
13	729	84.4	772	5	US-10-775-180-95	Sequence 95, Appl
14	729	84.4	772	5	US-10-775-180-97	Sequence 97, Appl
15	729	84.4	772	5	US-10-775-204-310	Sequence 310, App
16	729	84.4	772	5	US-10-775-204-322	Sequence 322, App
17	729	84.4	775	5	US-10-775-180-84	Sequence 84, Appl
18	729	84.4	775	5	US-10-775-204-247	Sequence 247, App
19	725	83.9	422	5	US-10-841-250-100	Sequence 100, App
20	723	83.7	165	4	US-10-743-068-1	Sequence 1, Appli
21	723	83.7	165	4	US-10-658-834A-1043	Sequence 1043, Ap
22	723	83.7	165	5	US-10-658-355B-239	Sequence 239, App
23	723	83.7	166	3	US-09-971-843-7	Sequence 7, Appli
24	723	83.7	166	3	US-09-732-436-16	Sequence 16, Appl
25	723	83.7	166	4	US-10-246-932-1	Sequence 1, Appli
26	723	83.7	166	4	US-10-246-932-2	Sequence 2, Appli
27	723	83.7	166	4	US-10-186-962-1	Sequence 1, Appli
28	723	83.7	166	4	US-10-400-377-5	Sequence 5, Appli
29	723	83.7	166	4	US-10-400-708-5	Sequence 5, Appli
30	723	83.7	166	4	US-10-084-706-2	Sequence 2, Appli
31	723	83.7	166	4	US-10-298-148-5	Sequence 5, Appli
32	723	83.7	166	4	US-10-325-720-2	Sequence 2, Appli
33	723	83.7	166	4	US-10-351-189-2	Sequence 2, Appli
34	723	83.7	166	4	US-10-609-296-2	Sequence 2, Appli
35	723	83.7	166	4	US-10-448-667-1	Sequence 1, Appli
36	723	83.7	166	4	US-10-743-068-2	Sequence 2, Appli
37	723	83.7	166	4	US-10-658-834A-196	Sequence 196, App
38	723	83.7	166	4	US-10-658-834A-197	Sequence 197, App
39	723	83.7	166	4	US-10-658-834A-1016	Sequence 1016, Ap
40	723	83.7	166	4	US-10-658-834A-1017	Sequence 1017, Ap
41	723	83.7	166	4	US-10-658-834A-1018	Sequence 1018, Ap
42	723	83.7	166	4	US-10-658-834A-1019	Sequence 1019, Ap
43	723	83.7	166	4	US-10-658-834A-1020	Sequence 1020, Ap
44	723	83.7	166	4	US-10-658-834A-1021	Sequence 1021, Ap
45	723	83.7	166	4	US-10-658-834A-1022	Sequence 1022, Ap

ALIGNMENTS

RESULT 1
US-10-677-093-35
; Sequence 35, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John Rudolf
; APPLICANT: Marshall, Shannon Alicia
; APPLICANT: Mo, Yirong
; APPLICANT: Thomason, Adam Read
; TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
; TITLE OF INVENTION: IMMUNOMODULATORY ACTIVITY
; FILE REFERENCE: 33604/US/1
; CURRENT APPLICATION NUMBER: US/10/677,093
; CURRENT FILING DATE: 2003-09-30
; PRIOR APPLICATION NUMBER: 60/425,851
; PRIOR FILING DATE: 2002-11-12
; NUMBER OF SEQ ID NOS: 54
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 35
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic
US-10-677-093-35

Query Match 100.0%; Score 864; DB 4; Length 164;
Best Local Similarity 100.0%; Pred. No. 1.3e-75;
Matches 164; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||||||||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
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RESULT 2
US-10-677-093-40
; Sequence 40, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John Rudolf
; APPLICANT: Marshall, Shannon Alicia

```
;  APPLICANT:  Mo, Yirong
;  APPLICANT:  Thomason, Adam Read
;  TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
;  TITLE OF INVENTION:  IMMUNOMODULATORY ACTIVITY
;  FILE REFERENCE: 33604/US/1
;  CURRENT APPLICATION NUMBER: US/10/677,093
;  CURRENT FILING DATE:  2003-09-30
;  PRIOR APPLICATION NUMBER: 60/425,851
;  PRIOR FILING DATE: 2002-11-12
;  NUMBER OF SEQ ID NOS: 54
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 40
;   LENGTH: 164
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic
US-10-677-093-40

  Query Match             98.4%;  Score 850;  DB 4;  Length 164;
  Best Local Similarity   98.8%;  Pred. No. 2.9e-74;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||  |||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRDTNLLGFLQRSSNFQCQKLLWQLNGR 164


RESULT 3
US-10-677-093-45
; Sequence 45, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John Rudolf
;  APPLICANT:  Marshall, Shannon Alicia
;  APPLICANT:  Mo, Yirong
;  APPLICANT:  Thomason, Adam Read
;  TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
;  TITLE OF INVENTION:  IMMUNOMODULATORY ACTIVITY
;  FILE REFERENCE: 33604/US/1
;  CURRENT APPLICATION NUMBER: US/10/677,093
;  CURRENT FILING DATE:  2003-09-30
;  PRIOR APPLICATION NUMBER: 60/425,851
;  PRIOR FILING DATE: 2002-11-12
;  NUMBER OF SEQ ID NOS: 54
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 45
;   LENGTH: 164
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic
US-10-677-093-45

  Query Match             98.4%;  Score 850;  DB 4;  Length 164;
  Best Local Similarity   98.8%;  Pred. No. 2.9e-74;
  Matches  162;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120

Qy        121 VEILRNFYFINRLTGYLRGDNLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||  |||||||||||||||||||||||
Db        121 VEILRNFYFINRLTGYLRQSNLLGFLQRSSNFQCQKLLWQLNGR 164


RESULT 4
US-10-677-093-36
; Sequence 36, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John Rudolf
;  APPLICANT:  Marshall, Shannon Alicia
;  APPLICANT:  Mo, Yirong
;  APPLICANT:  Thomason, Adam Read
;  TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
;  TITLE OF INVENTION:  IMMUNOMODULATORY ACTIVITY
;  FILE REFERENCE: 33604/US/1
;  CURRENT APPLICATION NUMBER: US/10/677,093
;  CURRENT FILING DATE:  2003-09-30
;  PRIOR APPLICATION NUMBER: 60/425,851
;  PRIOR FILING DATE: 2002-11-12
;  NUMBER OF SEQ ID NOS: 54
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 36
;   LENGTH: 164
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic
US-10-677-093-36

  Query Match             87.6%;  Score 757;  DB 4;  Length 164;
  Best Local Similarity   100.0%;  Pred. No. 3e-65;
  Matches  144;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         21 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 80
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 60

Qy         81 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRGD 140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRGD 120

Qy        141 NLLGFLQRSSNFQCQKLLWQLNGR 164
              ||||||||||||||||||||||||
Db        121 NLLGFLQRSSNFQCQKLLWQLNGR 144


RESULT 5
US-10-677-093-41
; Sequence 41, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
;  APPLICANT: Desjarlais, John Rudolf
;  APPLICANT:  Marshall, Shannon Alicia
;  APPLICANT:  Mo, Yirong
;  APPLICANT:  Thomason, Adam Read
;  TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
;  TITLE OF INVENTION:  IMMUNOMODULATORY ACTIVITY
;  FILE REFERENCE: 33604/US/1
;  CURRENT APPLICATION NUMBER: US/10/677,093
;  CURRENT FILING DATE:  2003-09-30
;  PRIOR APPLICATION NUMBER: 60/425,851
;  PRIOR FILING DATE: 2002-11-12
;  NUMBER OF SEQ ID NOS: 54
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 41
;   LENGTH: 164
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic
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US-10-677-093-41

Query Match 86.0%; Score 743; DB 4; Length 164;
Best Local Similarity 98.6%; Pred. No. 6.7e-64;
Matches 142; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy         21 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 80
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 60

Qy         81 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRGD 140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRDT 120

Qy        141 NLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||||||||||
Db        121 NLLGFLQRSSNFQCQKLLWQLNGR 144
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RESULT 6
US-10-677-093-46
; Sequence 46, Application US/10677093
; Publication No. US20040175359A1
; GENERAL INFORMATION:
; APPLICANT: Desjarlais, John Rudolf
; APPLICANT: Marshall, Shannon Alicia
; APPLICANT: Mo, Yirong
; APPLICANT: Thomason, Adam Read
; TITLE OF INVENTION: NOVEL PROTEINS WITH ANTIVIRAL, ANTINEOPLASTIC, AND/OR
; TITLE OF INVENTION: IMMUNOMODULATORY ACTIVITY
; FILE REFERENCE: 33604/US/1
; CURRENT APPLICATION NUMBER: US/10/677,093
; CURRENT FILING DATE: 2003-09-30
; PRIOR APPLICATION NUMBER: 60/425,851
; PRIOR FILING DATE: 2002-11-12
; NUMBER OF SEQ ID NOS: 54
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 46
; LENGTH: 164
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic
US-10-677-093-46

Query Match 86.0%; Score 743; DB 4; Length 164;
Best Local Similarity 98.6%; Pred. No. 6.7e-64;
Matches 142; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy         21 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 80
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 QQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENLLANVYHQINHLKTVLEEKLE 60

Qy         81 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRGD 140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 KEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVRVEILRNFYFINRLTGYLRQS 120

Qy        141 NLLGFLQRSSNFQCQKLLWQLNGR 164
              |||||||||||||||||||||||||
Db        121 NLLGFLQRSSNFQCQKLLWQLNGR 144
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RESULT 7
US-09-832-659-2
; Sequence 2, Application US/09832659
; Patent No. US20020155547A1
; GENERAL INFORMATION:
; APPLICANT: BIOGEN, INC.
; TITLE OF INVENTION: Interferon-Beta Fusion Proteins and Uses
; FILE REFERENCE: A064PCTSEQ
; CURRENT APPLICATION NUMBER: US/09/832,659
; CURRENT FILING DATE: 2001-04-11
; PRIOR APPLICATION NUMBER: 60/120,237
; PRIOR FILING DATE: 1999-02-16
; PRIOR APPLICATION NUMBER: 60/104,491
; PRIOR FILING DATE: 1998-10-16
; NUMBER OF SEQ ID NOS: 44
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 2
; LENGTH: 399
; TYPE: PRT
; ORGANISM: murine
US-09-832-659-2

Query Match 84.5%; Score 730; DB 3; Length 399;
Best Local Similarity 98.6%; Pred. No. 3.6e-62;
Matches 139; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLRGDN 141
              |||||||||||||||||| |:
Db        148 VEILRNFYFINRLTGYLRNDD 168
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RESULT 8
US-10-868-673-2
; Sequence 2, Application US/10868673
; Publication No. US20050214253A1
; GENERAL INFORMATION:
; APPLICANT: WHITTY, ADRIAN
; APPLICANT: RUNKEL, LAURA
; APPLICANT: BRICKELMAIER, MARGOT
; APPLICANT: HOCHMAN, PAULA
; TITLE OF INVENTION: INTERFERON-BETA FUSION PROTEINS AND USES
; FILE REFERENCE: BII-007.01
; CURRENT APPLICATION NUMBER: US/10/868,673
; CURRENT FILING DATE: 2004-06-15
; PRIOR APPLICATION NUMBER: US/09/832,659
; PRIOR FILING DATE: 2001-04-11
; PRIOR APPLICATION NUMBER: PCT/US99/24200
; PRIOR FILING DATE: 1999-10-15
; PRIOR APPLICATION NUMBER: 60/120,237
; PRIOR FILING DATE: 1999-02-16
; PRIOR APPLICATION NUMBER: 60/104,491
; PRIOR FILING DATE: 1998-10-16
; NUMBER OF SEQ ID NOS: 61
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 399
; TYPE: PRT
; ORGANISM: Mus sp.
US-10-868-673-2

Query Match 84.5%; Score 730; DB 5; Length 399;
Best Local Similarity 98.6%; Pred. No. 3.6e-62;
Matches 139; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLRGDN 141
              |||||||||||||||||| |:
Db        148 VEILRNFYFINRLTGYLRNDD 168
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```
RESULT 9
US-10-775-180-138
; Sequence 138, Application US/10775180
; Publication No. US20050054570A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen, Craig A.
;  APPLICANT:  Haseltine, William A.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF574
;  CURRENT APPLICATION NUMBER: US/10/775,180
;  CURRENT FILING DATE:  2004-02-11
;  PRIOR APPLICATION NUMBER: PCT/US02/40892
;  PRIOR FILING DATE: 2002-12-23
;  PRIOR APPLICATION NUMBER: 60/341,811
;  PRIOR FILING DATE: 2001-12-21
;  PRIOR APPLICATION NUMBER: 60/360,000
;  PRIOR FILING DATE: 2002-02-28
;  PRIOR APPLICATION NUMBER: 60/378,950
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/398,008
;  PRIOR FILING DATE: 2002-07-24
;  PRIOR APPLICATION NUMBER: 60/411,355
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: 60/414,984
;  PRIOR FILING DATE: 2002-10-02
;  PRIOR APPLICATION NUMBER: 60/417,611
;  PRIOR FILING DATE: 2002-10-11
;  PRIOR APPLICATION NUMBER: 60/420,246
;  PRIOR FILING DATE: 2002-10-23
;  PRIOR APPLICATION NUMBER: 60/423,623
;  PRIOR FILING DATE: 2002-11-05
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 858
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 138
;   LENGTH: 771
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-775-180-138

  Query Match             84.4%;  Score 729;  DB 5;  Length 771;
  Best Local Similarity   99.3%;  Pred. No. 1e-61;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         48 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 107

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        108 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 167

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 10
US-10-775-180-555
; Sequence 555, Application US/10775180
; Publication No. US20050054570A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen, Craig A.
;  APPLICANT:  Haseltine, William A.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF574
;  CURRENT APPLICATION NUMBER: US/10/775,180
;  CURRENT FILING DATE:  2004-02-11
;  PRIOR APPLICATION NUMBER: PCT/US02/40892
;  PRIOR FILING DATE: 2002-12-23
;  PRIOR APPLICATION NUMBER: 60/341,811
;  PRIOR FILING DATE: 2001-12-21
;  PRIOR APPLICATION NUMBER: 60/360,000
;  PRIOR FILING DATE: 2002-02-28
;  PRIOR APPLICATION NUMBER: 60/378,950
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/398,008
;  PRIOR FILING DATE: 2002-07-24
;  PRIOR APPLICATION NUMBER: 60/411,355
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: 60/414,984
;  PRIOR FILING DATE: 2002-10-02
;  PRIOR APPLICATION NUMBER: 60/417,611
;  PRIOR FILING DATE: 2002-10-11
;  PRIOR APPLICATION NUMBER: 60/420,246
;  PRIOR FILING DATE: 2002-10-23
;  PRIOR APPLICATION NUMBER: 60/423,623
;  PRIOR FILING DATE: 2002-11-05
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 858
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 555
;   LENGTH: 771
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-775-180-555

  Query Match             84.4%;  Score 729;  DB 5;  Length 771;
  Best Local Similarity   99.3%;  Pred. No. 1e-61;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Qy        121 VEILRNFYFINRLTGYLRGD 140
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Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 11
US-10-775-204-428
; Sequence 428, Application US/10775204
; Publication No. US20050186664A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen, Craig A.
;  APPLICANT:  Haseltine, William A.
;  APPLICANT:  Balance, David J.
;  APPLICANT:  Turner, Andrew J.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF564
;  CURRENT APPLICATION NUMBER: US/10/775,204
;  CURRENT FILING DATE:  2004-02-11
;  PRIOR APPLICATION NUMBER: 60/341,811
;  PRIOR FILING DATE: 2001-12-21
;  PRIOR APPLICATION NUMBER: 60/360,000
;  PRIOR FILING DATE: 2002-02-28
;  PRIOR APPLICATION NUMBER: 60/378,950
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/398,008
;  PRIOR FILING DATE: 2002-07-24
;  PRIOR APPLICATION NUMBER: 60/411,355
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: 60/414,984
;  PRIOR FILING DATE: 2002-10-02
;  PRIOR APPLICATION NUMBER: 60/417,611
;  PRIOR FILING DATE: 2002-10-11
;  PRIOR APPLICATION NUMBER: 60/420,246
;  PRIOR FILING DATE: 2002-10-23
;  PRIOR APPLICATION NUMBER: 60/423,623
;  PRIOR FILING DATE: 2002-11-05
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;  PRIOR APPLICATION NUMBER: 60/351,360
;  PRIOR FILING DATE: 2002-01-28
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 2222
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 428
;   LENGTH: 771
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-775-204-428

  Query Match            84.4%;  Score 729;  DB 5;  Length 771;
  Best Local Similarity  99.3%;  Pred. No. 1e-61;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Qy        121 VEILRNFYFINRLTGYLRGD 140
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Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 12
US-10-775-204-1519
; Sequence 1519, Application US/10775204
; Publication No. US20050186664A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen, Craig A.
;  APPLICANT:  Haseltine, William A.
;  APPLICANT:  Balance, David J.
;  APPLICANT:  Turner, Andrew J.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF564
;  CURRENT APPLICATION NUMBER: US/10/775,204
;  CURRENT FILING DATE:  2004-02-11
;  PRIOR APPLICATION NUMBER: 60/341,811
;  PRIOR FILING DATE: 2001-12-21
;  PRIOR APPLICATION NUMBER: 60/360,000
;  PRIOR FILING DATE: 2002-02-28
;  PRIOR APPLICATION NUMBER: 60/378,950
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/398,008
;  PRIOR FILING DATE: 2002-07-24
;  PRIOR APPLICATION NUMBER: 60/411,355
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: 60/414,984
;  PRIOR FILING DATE: 2002-10-02
;  PRIOR APPLICATION NUMBER: 60/417,611
;  PRIOR FILING DATE: 2002-10-11
;  PRIOR APPLICATION NUMBER: 60/420,246
;  PRIOR FILING DATE: 2002-10-23
;  PRIOR APPLICATION NUMBER: 60/423,623
;  PRIOR FILING DATE: 2002-11-05
;  PRIOR APPLICATION NUMBER: 60/351,360
;  PRIOR FILING DATE: 2002-01-28
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 2222
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 1519
;   LENGTH: 771
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-775-204-1519

  Query Match            84.4%;  Score 729;  DB 5;  Length 771;
  Best Local Similarity  99.3%;  Pred. No. 1e-61;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

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Db        108 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 167

Qy        121 VEILRNFYFINRLTGYLRGD 140
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Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 13
US-10-775-180-95
; Sequence 95, Application US/10775180
; Publication No. US20050054570A1
; GENERAL INFORMATION:
;  APPLICANT: Rosen, Craig A.
;  APPLICANT:  Haseltine, William A.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF574
;  CURRENT APPLICATION NUMBER: US/10/775,180
;  CURRENT FILING DATE:  2004-02-11
;  PRIOR APPLICATION NUMBER: PCT/US02/40892
;  PRIOR FILING DATE: 2002-12-23
;  PRIOR APPLICATION NUMBER: 60/341,811
;  PRIOR FILING DATE: 2001-12-21
;  PRIOR APPLICATION NUMBER: 60/360,000
;  PRIOR FILING DATE: 2002-02-28
;  PRIOR APPLICATION NUMBER: 60/378,950
;  PRIOR FILING DATE: 2002-05-10
;  PRIOR APPLICATION NUMBER: 60/398,008
;  PRIOR FILING DATE: 2002-07-24
;  PRIOR APPLICATION NUMBER: 60/411,355
;  PRIOR FILING DATE: 2002-09-18
;  PRIOR APPLICATION NUMBER: 60/414,984
;  PRIOR FILING DATE: 2002-10-02
;  PRIOR APPLICATION NUMBER: 60/417,611
;  PRIOR FILING DATE: 2002-10-11
;  PRIOR APPLICATION NUMBER: 60/420,246
;  PRIOR FILING DATE: 2002-10-23
;  PRIOR APPLICATION NUMBER: 60/423,623
;  PRIOR FILING DATE: 2002-11-05
;  Remaining Prior Application data removed - See File Wrapper or PALM.
;  NUMBER OF SEQ ID NOS: 858
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 95
;   LENGTH: 772
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-775-180-95

  Query Match            84.4%;  Score 729;  DB 5;  Length 772;
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  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

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Qy        121 VEILRNFYFINRLTGYLRGD 140
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RESULT 14
US-10-775-180-97
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; Sequence 97, Application US/10775180
; Publication No. US20050054570A1
; GENERAL INFORMATION:
; APPLICANT: Rosen, Craig A.
; APPLICANT: Haseltine, William A.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PF574
; CURRENT APPLICATION NUMBER: US/10/775,180
; CURRENT FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: PCT/US02/40892
; PRIOR FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 60/341,811
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/360,000
; PRIOR FILING DATE: 2002-02-28
; PRIOR APPLICATION NUMBER: 60/378,950
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: 60/398,008
; PRIOR FILING DATE: 2002-07-24
; PRIOR APPLICATION NUMBER: 60/411,355
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: 60/414,984
; PRIOR FILING DATE: 2002-10-02
; PRIOR APPLICATION NUMBER: 60/417,611
; PRIOR FILING DATE: 2002-10-11
; PRIOR APPLICATION NUMBER: 60/420,246
; PRIOR FILING DATE: 2002-10-23
; PRIOR APPLICATION NUMBER: 60/423,623
; PRIOR FILING DATE: 2002-11-05
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 858
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 97
; LENGTH: 772
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; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SITE
; LOCATION: (240)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
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; NAME/KEY: SITE
; LOCATION: (270)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-10-775-180-97

Query Match 84.4%; Score 729; DB 5; Length 772;
Best Local Similarity 99.3%; Pred. No. 1e-61;
Matches 139; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Db        169 VEILRNFYFINRLTGYLRND 188
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RESULT 15
US-10-775-204-310
; Sequence 310, Application US/10775204
; Publication No. US20050186664A1
; GENERAL INFORMATION:
; APPLICANT: Rosen, Craig A.
; APPLICANT: Haseltine, William A.
; APPLICANT: Balance, David J.
; APPLICANT: Turner, Andrew J.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PF564
; CURRENT APPLICATION NUMBER: US/10/775,204
; CURRENT FILING DATE: 2004-02-11
; PRIOR APPLICATION NUMBER: 60/341,811
; PRIOR FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 60/360,000
; PRIOR FILING DATE: 2002-02-28
; PRIOR APPLICATION NUMBER: 60/378,950
; PRIOR FILING DATE: 2002-05-10
; PRIOR APPLICATION NUMBER: 60/398,008
; PRIOR FILING DATE: 2002-07-24
; PRIOR APPLICATION NUMBER: 60/411,355
; PRIOR FILING DATE: 2002-09-18
; PRIOR APPLICATION NUMBER: 60/414,984
; PRIOR FILING DATE: 2002-10-02
; PRIOR APPLICATION NUMBER: 60/417,611
; PRIOR FILING DATE: 2002-10-11
; PRIOR APPLICATION NUMBER: 60/420,246
; PRIOR FILING DATE: 2002-10-23
; PRIOR APPLICATION NUMBER: 60/423,623
; PRIOR FILING DATE: 2002-11-05
; PRIOR APPLICATION NUMBER: 60/351,360
; PRIOR FILING DATE: 2002-01-28
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 2222
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 310
; LENGTH: 772
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-775-204-310

Query Match 84.4%; Score 729; DB 5; Length 772;
Best Local Similarity 99.3%; Pred. No. 1e-61;
Matches 139; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Db        169 VEILRNFYFINRLTGYLRND 188
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Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
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2	729	84.4	771	11	US-11-175-690-488	Sequence 488, App
3	729	84.4	772	11	US-11-175-690-471	Sequence 471, App
4	729	84.4	772	11	US-11-175-690-479	Sequence 479, App
5	729	84.4	775	11	US-11-175-690-463	Sequence 463, App
6	723	83.7	165	11	US-11-196-067-239	Sequence 239, App
7	723	83.7	166	9	US-10-506-954-2	Sequence 2, Appli
8	723	83.7	166	11	US-11-147-492-1	Sequence 1, Appli
9	723	83.7	166	11	US-11-147-492-2	Sequence 2, Appli
10	723	83.7	166	11	US-11-175-690-465	Sequence 465, App
11	723	83.7	166	11	US-11-175-690-470	Sequence 470, App
12	723	83.7	166	11	US-11-175-690-478	Sequence 478, App
13	723	83.7	166	11	US-11-175-690-484	Sequence 484, App
14	723	83.7	166	11	US-11-175-690-493	Sequence 493, App
15	723	83.7	166	11	US-11-175-690-496	Sequence 496, App
16	723	83.7	166	11	US-11-175-690-499	Sequence 499, App
17	723	83.7	166	11	US-11-176-830-196	Sequence 196, App
18	723	83.7	166	11	US-11-176-830-197	Sequence 197, App
19	723	83.7	166	11	US-11-176-830-1016	Sequence 1016, Ap
20	723	83.7	166	11	US-11-176-830-1017	Sequence 1017, Ap
21	723	83.7	166	11	US-11-176-830-1018	Sequence 1018, Ap
22	723	83.7	166	11	US-11-176-830-1019	Sequence 1019, Ap
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24	723	83.7	166	11	US-11-176-830-1021	Sequence 1021, Ap
25	723	83.7	166	11	US-11-176-830-1022	Sequence 1022, Ap
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27	723	83.7	166	11	US-11-176-830-1024	Sequence 1024, Ap
28	723	83.7	166	11	US-11-176-830-1025	Sequence 1025, Ap
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36	723	83.7	166	11	US-11-176-830-1033	Sequence 1033, Ap
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39	723	83.7	166	11	US-11-176-830-1036	Sequence 1036, Ap
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41	723	83.7	166	11	US-11-176-830-1038	Sequence 1038, Ap
42	723	83.7	166	11	US-11-176-830-1039	Sequence 1039, Ap
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44	723	83.7	166	11	US-11-176-830-1041	Sequence 1041, Ap
45	723	83.7	166	11	US-11-176-830-1042	Sequence 1042, Ap

ALIGNMENTS

RESULT 1
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; Sequence 485, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
; APPLICANT: Haseltine et al.
; TITLE OF INVENTION: Albumin Fusion Proteins
; FILE REFERENCE: PF605
; CURRENT APPLICATION NUMBER: US/11/175,690
; CURRENT FILING DATE: 2005-07-07
; PRIOR APPLICATION NUMBER: PCT/US04/001369
; PRIOR FILING DATE: 2004-01-20
; PRIOR APPLICATION NUMBER: US 60/441,305
; PRIOR FILING DATE: 2003-01-22
; PRIOR APPLICATION NUMBER: US 60/453,201
; PRIOR FILING DATE: 2003-03-11
; PRIOR APPLICATION NUMBER: US 60/467,222
; PRIOR FILING DATE: 2003-05-02
; PRIOR APPLICATION NUMBER: US 60/472,816
; PRIOR FILING DATE: 2003-05-23
; PRIOR APPLICATION NUMBER: US 60/476,267
; PRIOR FILING DATE: 2003-06-06
; PRIOR APPLICATION NUMBER: US 60/505,172
; PRIOR FILING DATE: 2003-09-24
; PRIOR APPLICATION NUMBER: US 60/506,746
; PRIOR FILING DATE: 2003-09-30
; NUMBER OF SEQ ID NOS: 568
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 485
; LENGTH: 771
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-175-690-485

Query Match 84.4%; Score 729; DB 11; Length 771;
Best Local Similarity 99.3%; Pred. No. 4.6e-62;
Matches 139; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 48 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 107

Qy 61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

```
Db        108 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 167

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 2
US-11-175-690-488
; Sequence 488, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 488
;   LENGTH: 771
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-488

  Query Match             84.4%;  Score 729;  DB 11;  Length 771;
  Best Local Similarity   99.3%;  Pred. No. 4.6e-62;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         48 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 107

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        108 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 167

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        168 VEILRNFYFINRLTGYLRND 187


RESULT 3
US-11-175-690-471
; Sequence 471, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 471
;   LENGTH: 772
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-471

  Query Match             84.4%;  Score 729;  DB 11;  Length 772;
  Best Local Similarity   99.3%;  Pred. No. 4.6e-62;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        169 VEILRNFYFINRLTGYLRND 188


RESULT 4
US-11-175-690-479
; Sequence 479, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 479
;   LENGTH: 772
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (240)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
;   FEATURE:
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;   NAME/KEY: MISC_FEATURE
;   LOCATION: (270)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-11-175-690-479

  Query Match             84.4%;  Score 729;  DB 11;  Length 772;
  Best Local Similarity   99.3%;  Pred. No. 4.6e-62;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         49 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 108

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        109 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 168

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        169 VEILRNFYFINRLTGYLRND 188


RESULT 5
US-11-175-690-463
; Sequence 463, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 463
;   LENGTH: 775
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-463

  Query Match             84.4%;  Score 729;  DB 11;  Length 775;
  Best Local Similarity   99.3%;  Pred. No. 4.6e-62;
  Matches  139;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         52 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 111

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        112 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 171

Qy        121 VEILRNFYFINRLTGYLRGD 140
              |||||||||||||||||| |
Db        172 VEILRNFYFINRLTGYLRND 191


RESULT 6
US-11-196-067-239
; Sequence 239, Application US/11196067
; Publication No. US20060020396A1
; GENERAL INFORMATION:
;  APPLICANT: Gantier, Rene
;  APPLICANT:  Guyon, Thierry
;  APPLICANT:  Hugo, Cruz Ramos
;  APPLICANT:  Vega, Manuel
;  APPLICANT:  Drittanti, Lila
;  TITLE OF INVENTION: Rational Directed Protein Evolution Using Two Dimensional
;  TITLE OF INVENTION:  Rational Mutagenesis Scanning
;  FILE REFERENCE: 17109-013002 (923B)
;  CURRENT APPLICATION NUMBER: US/11/196,067
;  CURRENT FILING DATE:  2005-08-02
;  PRIOR APPLICATION NUMBER: US/10/658,355
;  PRIOR FILING DATE: 2003-09-08
;  PRIOR APPLICATION NUMBER: 60/457,063
;  PRIOR FILING DATE: 2003-03-21
;  PRIOR APPLICATION NUMBER: 60/410,258
;  PRIOR FILING DATE: 2002-09-09
;  NUMBER OF SEQ ID NOS: 501
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 239
;   LENGTH: 165
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-196-067-239

  Query Match             83.7%;  Score 723;  DB 11;  Length 165;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 7
US-10-506-954-2
; Sequence 2, Application US/10506954
; Publication No. US20060083715A1
; GENERAL INFORMATION:
;  APPLICANT: Maxygen ApS
;  TITLE OF INVENTION: Interferon beta-like molecules for treatment of stroke
;  FILE REFERENCE: 0256.210US - INFB for stroke
;  CURRENT APPLICATION NUMBER: US/10/506,954
;  CURRENT FILING DATE:  2004-09-08
;  NUMBER OF SEQ ID NOS: 51
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-506-954-2

  Query Match             83.7%;  Score 723;  DB 9;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy         121 VEILRNFYFINRLTGYLR 138
               ||||||||||||||||||
Db         148 VEILRNFYFINRLTGYLR 165


RESULT 8
US-11-147-492-1
; Sequence 1, Application US/11147492
; Publication No. US20050276785A1
; GENERAL INFORMATION:
;  APPLICANT: Kapp, Joachim-Freidrich
;  APPLICANT:  Kuehl, Uwe
;  APPLICANT:  Groetzbach, Georg
;  APPLICANT:  Schultheiss, Heinz-Peter
;  APPLICANT:  Sowade, Olaf
;  APPLICANT:  Stuerzebecher, Claus-Steffen
;  TITLE OF INVENTION: Treatment of Cardiomyopathy and Endothelial Dysfunction
;  FILE REFERENCE: 53223
;  CURRENT APPLICATION NUMBER: US/11/147,492
;  CURRENT FILING DATE:  2005-06-07
;  PRIOR APPLICATION NUMBER: US 60/579,024
;  PRIOR FILING DATE: 2004-06-04
;  NUMBER OF SEQ ID NOS: 34
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: homo sapiens
US-11-147-492-1

  Query Match             83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
               ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 9
US-11-147-492-2
; Sequence 2, Application US/11147492
; Publication No. US20050276785A1
; GENERAL INFORMATION:
;  APPLICANT: Kapp, Joachim-Freidrich
;  APPLICANT:  Kuehl, Uwe
;  APPLICANT:  Groetzbach, Georg
;  APPLICANT:  Schultheiss, Heinz-Peter
;  APPLICANT:  Sowade, Olaf
;  APPLICANT:  Stuerzebecher, Claus-Steffen
;  TITLE OF INVENTION: Treatment of Cardiomyopathy and Endothelial Dysfunction
;  FILE REFERENCE: 53223
;  CURRENT APPLICATION NUMBER: US/11/147,492
;  CURRENT FILING DATE:  2005-06-07
;  PRIOR APPLICATION NUMBER: US 60/579,024
;  PRIOR FILING DATE: 2004-06-04
;  NUMBER OF SEQ ID NOS: 34
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: homo sapiens
US-11-147-492-2

  Query Match             83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
               ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 10
US-11-175-690-465
; Sequence 465, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 465
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-465

  Query Match             83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity   100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
               ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 11
US-11-175-690-470
; Sequence 470, Application US/11175690
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; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 470
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-470

  Query Match            83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         28 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 87

Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
              ||||||||||||||||||
Db        148 VEILRNFYFINRLTGYLR 165


RESULT 12
US-11-175-690-478
; Sequence 478, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 478
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-478

  Query Match            83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-62;
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Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
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Db        148 VEILRNFYFINRLTGYLR 165


RESULT 13
US-11-175-690-484
; Sequence 484, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 484
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-484

  Query Match            83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-62;
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Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Qy        121 VEILRNFYFINRLTGYLR 138
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Db        148 VEILRNFYFINRLTGYLR 165


RESULT 14
US-11-175-690-493
; Sequence 493, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 493
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-493

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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Qy        121 VEILRNFYFINRLTGYLR 138
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Db        148 VEILRNFYFINRLTGYLR 165


RESULT 15
US-11-175-690-496
; Sequence 496, Application US/11175690
; Publication No. US20060014254A1
; GENERAL INFORMATION:
;  APPLICANT: Haseltine et al.
;  TITLE OF INVENTION: Albumin Fusion Proteins
;  FILE REFERENCE: PF605
;  CURRENT APPLICATION NUMBER: US/11/175,690
;  CURRENT FILING DATE:  2005-07-07
;  PRIOR APPLICATION NUMBER: PCT/US04/001369
;  PRIOR FILING DATE: 2004-01-20
;  PRIOR APPLICATION NUMBER: US 60/441,305
;  PRIOR FILING DATE: 2003-01-22
;  PRIOR APPLICATION NUMBER: US 60/453,201
;  PRIOR FILING DATE: 2003-03-11
;  PRIOR APPLICATION NUMBER: US 60/467,222
;  PRIOR FILING DATE: 2003-05-02
;  PRIOR APPLICATION NUMBER: US 60/472,816
;  PRIOR FILING DATE: 2003-05-23
;  PRIOR APPLICATION NUMBER: US 60/476,267
;  PRIOR FILING DATE: 2003-06-06
;  PRIOR APPLICATION NUMBER: US 60/505,172
;  PRIOR FILING DATE: 2003-09-24
;  PRIOR APPLICATION NUMBER: US 60/506,746
;  PRIOR FILING DATE: 2003-09-30
;  NUMBER OF SEQ ID NOS: 568
;  SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 496
;   LENGTH: 166
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-175-690-496

  Query Match            83.7%;  Score 723;  DB 11;  Length 166;
  Best Local Similarity  100.0%;  Pred. No. 2.5e-62;
  Matches  138;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 LEYCLKDRMNFDIPEEIKQLQQFQKEDAALTIYEMLQNIFAIFRQDSSSTGWNETIVENL 60
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Qy         61 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 120
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Db         88 LANVYHQINHLKTVLEEKLEKEDFTRGKLMSSLHLKRYYGRILHYLKAKEYSHCAWTIVR 147

Qy        121 VEILRNFYFINRLTGYLR 138
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Db        148 VEILRNFYFINRLTGYLR 165


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